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HIGH SCHOOL AND CLASS MANAGEMENT

BY

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WITH INTRODUCTION

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To
the high school men and women
of Illinois
among whom it has been
the author's great pleasure
to work
during the past thirteen years
and whose teaching
has inspired
much of what is set down
in these pages
this book is
dedicated

PREFACE

THE purpose of this book is to furnish to teachers and principals of high schools and to those preparing for such work a brief but comprehensive survey of the field which the title suggests. The modern high school has developed so rapidly, with its multiplying problems, that such a distinct treatment of its management and of the technique of teaching in its various departments has become a necessity.

It is to aid in meeting this need, and from the standpoint of a wide contact with secondary schools, that this volume has been written. The discussions here presented are the results of a long experience with and study of high school problems of management and teaching. Nothing is set down as a theory, or as a mere opinion, except as expressing the author's judgment, in some cases, of methods actually in use. The material is in this respect all first-hand.

If to some, at first, the scope of the work seems too broad, it will be found that, as compared with other treatments, this is only a difference due to the author's method of analysis.

Under the head of general management, for instance, many things are included which are sometimes discussed under methods of teaching or class management. Another departure will appear in the distinction made between class management and the technique of teaching. The materials for the treatment of the latter topic have been taken largely from notes on observations in the field during thirteen years of experience in the inspection of the high schools of a state, supplemented by an extensive visitation and study of high schools in all parts of the United States. Much of this has previously appeared in articles published in *School and Home Education.*

Free use has been made, by permission, of various programs of study, especially those of intermediate schools, as illustrative of the points discussed. Our sincere thanks are due the superintendents and principals of the schools thus referred to.

URBANA, ILLINOIS,
September 25, 1915.

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INTRODUCTION

Coincident with the shift of the sovereignty of the American high school from voluntary to compulsory taxation has been a remarkable change in its nature and purpose. Instead of appealing to a few, selected because of their economic and social stations, it now appeals to the children of all classes of citizens. It has become a great institution of working learners. The abilities that it seeks to develop are of every worthy sort: executive as well as scholarly, artistic as well as scientific, concerned with the work of the world as well as with a noble use of leisure, concerned with the work of women as well as with the work of men. Emphasis in instruction has shifted from the mass to the group, from the class to the individual, from the transmitting of experience vicariously to more direct face to face experience, from a single appeal to a variety of appeals. New administrative units have been created through the introduction of medical inspection, dental clinics, and nursing, and through the supervision of the recreational activities of children. The disintegration of certain activities hitherto fundamental to the very integrity of other forms of institutional life has resulted in a greatly enlarged and much enriched curriculum. The program of studies is designed to prepare not merely for the professions and leisure enjoyments of life but for specialized industry as well. The activities of the school have been extended to include the interests of adult men and women. The buildings are open all hours of the day and until late at night, serving the needs of the community.

It would be interesting, and not without value, to trace the causes of this remarkable transformation, for, it must be admitted, the growth and improvement of the high school represents the most significant movement in American educa-

tion in the last fifty years. Increasing urbanization has necessitated an enlargement of the scope of the high school's activities, greater wealth has tended to democratize it, spreading industry has demanded more intelligently and efficiently trained recruits, and a multitude of intricate social forces and sanctions have brought new needs and new sanctions to bear for the introduction of new materials and new methods of work. Practically every social and humanitarian movement has left its impress upon the high school. Each has tended to fashion the school to suit its own needs and to conserve its own purposes. It is through the operation of such silent but nevertheless powerful currents of social evolution as these that the high school has assumed larger responsibilities and clothed itself with new dignity.

Comparisons between the American high school and the secondary schools of the leading foreign countries are not uncommon. While foreign secondary schools have much of value to contribute to the student of education, it should be remembered, however, that, for the most part, they represent adjustments to special classes. Schools which are alien in origin and alien in nature can never be made to serve the interests of American people. It should be pointed out, moreover, that the secondary schools of England, Germany, and France have not become the popular schools of the masses as the American high school has. The fact is worth recording that the United States has a larger percentage of her school children enrolled in the high schools than any other nation in the world: but that fact states only a small part of the truth; we actually have enrolled in our high schools more pupils than are to be found in all the secondary schools of all the rest of the civilized nations of the world combined. Such facts as these induce us to appreciate the tremendous significance of this powerful agent of popular education. Fifty years ago it was more or less fixed in its structure, authoritative in its nature, and dominated by memoriter methods. Today it is

flexible in its organization, democratic in its nature, and dominated by a spirit of reverence for the individuality of children. Fifty years ago the high school was an infant full of possibilities; today it is a giant, growing more and more conscious of its responsibilities.

It is true that the high school has long been regarded as the creature of tradition and conservatism. This is due partly to its origin and partly to the influence of certain standardizing agencies. The absence of other agencies compelled colleges and universities to devise standards for the public high school. It is also true in some instances that the standards were narrow, but it can hardly be maintained that the insistence of higher institutions upon the requirements of a liberal education has been altogether unfortunate. This insistence sometimes caused the high school authorities to hesitate and to take stock when fads and Utopian schemes were being urged upon them. On the other hand, the increasing complexity of our democratic society gradually forced into the curriculum new subject matter that bore the sanction of reason of a new century. As this new material acquired academic respectability a reaction set in in the direction of the colleges and universities and a greater freedom was manifested in the variety of things accepted for entrance. The old controversy between the two institutions has consequently practically disappeared. More and more we find a closer articulation between them.

The variety of purposes served by the high school, the heterogeneous character of its enrollment, the widening sphere of its influence, the effect of various standardizing forces, all tend to complicate the problem of organization and management. It would seem that no scheme of organization or management could be devised that would serve the needs of all high schools alike. Vast and important as this problem is, at the present time, it can be discussed only in terms of principles. This Professor Hollister has done. Modifications and adjustments in organization and details of management

will vary with the high school, but the principles lying back of these are fundamental to all high schools. A wider knowledge of such principles as are outlined and elaborated in this book is necessary to safeguard the interests of the high school, for the high school is at the present time almost literally under fire. Practically every critic of the public school finds some fault with it. And usually the fault he finds is with some phase of its organization or management, and not with the underlying principles of its organization. Surface defects often lead to contentions that imperil the very existence of the institution. Professor Hollister has called attention to many of the causes of discontent and has in each instance traced them back to fundamental considerations. It should be remembered that this book is not the product of an academic theorist. It is based upon years of actual practical field experience. It represents the sober judgment of a man intensely interested in the welfare, growth, and perpetuity of the high school. It is a pioneer attempt to define the principles which will insure an effective organization, wise management, and efficient instruction, and which will permit the high school of the future to come into its full fruition.

L. D. C.

HIGH SCHOOL AND CLASS MANAGEMENT

PART I — EVOLUTION AND DEFINITION

CHAPTER I

ORIGIN AND GROWTH OF THE HIGH SCHOOL

THE modern American high school is the product of many forces — some remote, others near at hand. In any study of the problems of its management it is both fitting and desirable that we should acquaint ourselves with the important facts concerning these forces and the impressions they have made in shaping the character of this peculiarly interesting institution. In this respect the life of an institution is not unlike that of an individual. Just as one who is called to direct the activities of the growing individual needs to know something of his ancestry, of the conditions of his birth, and of the factors in environment that have previously played upon and shaped his character; so he who is to undertake the management, wholly or in part, of a given institution, needs to know its heredity and the environmental forces which have contributed to its present condition and tendencies.

In its primitive stages formal education of the individual was generally begun after the age of twelve. The little child was left to develop habits of conduct along lines determined chiefly by inherent racial instincts under such simple guidance as primitive parents were able to give. Not until the period of youth[1] had arrived was anything of a definitely educational

[1] In this volume the word youth is used as referring to the period of adolescence.

character undertaken. This primitive instruction consisted first in teaching the use of weapons of the chase or of warfare, together with the simple strategics to be employed. Later there developed the arts required in the making of weapons, in constructing rude shelter from the elements, and in fashioning various utensils of the household, wearing apparel and ornaments for the person, or shrines and temples for religious worship.

This limitation of education to the period of youth remained down to the latter part of the centuries usually assigned to ancient history. The changes which occurred during this period were such as to correspond to the evolution in the arts of peace and of war as the races of men advanced toward civilization or actually entered upon the stage of civilized development.

Language and the perfection of its use in most accurately conveying thought and feeling early became a factor in the training of youth. As one of the results, note the high degree of linguistic perfection of the classic nations. Music, also, as another form of expression coming down from more primitive times, received its share of consideration. Moreover, a people that was merging definitely into a field of construction of homes and temples would also need to find early growth in ideas of number and the various computations based thereon, and also in ideas of geometric relations. Thus mathematics in an elementary form, as a means of expressing relations of space and of quantity, found its place in the early curriculum for youthful education.

Ideals of physical training came, on the one hand, from the necessity of possessing bodily strength for hunting and fighting; on the other hand, artistic conceptions of physical beauty — springing in a measure, at least, from religious conceptions — furnished a strong coercive force for the physical training of youth. Thus methods of procuring food, the evolution of military ideals, and later, perhaps, the establishment of

religious and artistic standards of physical perfection became factors of no small moment in determining the form and content of the early education of youth.

But such forces could not long remain active without producing other conditions of environment destined to further limit and determine the character and extent of education. The gradual division of function in the social group, the distribution of material possessions, the enslavement of the conquered — all tended towards the establishment of social castes. Incidentally this led to differentiation of education, both as to character and extent. Thus, again, there came into the field a resultant and potent factor in determining all forms and conditions of the formal training of the young.

This differentiation of education, together with the increased demands upon the time and abilities of certain social groups, led to the gradual upward extension of the educative agencies. The inevitable result was the development of a love for and an interest in all learning, as representing the sum total of human wisdom. Out of these conditions sprang various schools of philosophy and the establishment of academic instruction out of which later were evolved the universities.

From this point the education of youth in its earlier stages, and among certain social castes, took on an entirely new significance. It was no longer a thing within itself, representing immediate needs of individuals or families. It became a matter of preparation for the more advanced processes to follow, a prerequisite to the acquisition of the learning of the universities. As a result an entirely new motive, and one far-reaching and persistent in its influence, came into the field as a determining factor in shaping secondary education.

With the breaking up of Latin political control in Europe many forces before more or less nascent had become positive forces in molding social institutions. Among these were the spread of Christianity, the growth of commerce, and the development of other fundamental industries. These, each in its

turn, had a definite part in shaping the development of education. Out of these in their various interactions, together with the migration westward from Asia and Africa of the Greek scholars, grew that conception of human rights which now seeks to express itself in democratic organizations of society.

There followed in comparatively rapid succession the revival of learning, the rise and growth of the scientific spirit, the discovery of a western hemisphere, the Reformation, the invention of printing. From these came the elementary school, the schools for practical training of youth, and the idea of universal training in the reading and writing of the vernacular among western nations.[1] Then followed American colonization and the evolution, on a new continent, of a type of democracy the very life and spirit of which depends upon the intelligence of the masses.

Out of these movements, then, has arisen the modern American high school. Let us pause with this conception of the evolution of the education of youth long enough to examine briefly the effects that still remain with the high school as the product of the forces and movements which we have here so hurriedly passed in review.

We find that training in language early became an important factor in the education of youth. By this means the Greeks found it possible, without the aid of any comparative study of languages, to attain to a high degree of perfection in both the spoken and written use of their own tongue. For the most part this was true also of the Romans. So far did these remarkable peoples advance in conceptions of law, religion, and the various fundamental institutions of society that with the passing over into modern times and national types a strange phenomenon occurred. For a time the importance of the language of the masses was lost sight of and these two

[1] See Anderson, *History of Common School Education*, pp. 160–63. New York, Henry Holt & Co., 1909; also Parker, *History of Modern Elementary Education*, pp. 30–31. Boston, Ginn & Co., 1912.

ancient tongues — particularly the Latin — became the vehicle of transfer of all legal, religious, and important institutional statutes and records.

It was that profound religious movement, the Reformation, which recalled the world to the fundamental importance of a people's mother tongue as a basis for the general dissemination of ideas and ideals. The earlier transfer of religious teachings had been assumed to require the use of the languages in which the primitive writings of Christian doctrines were preserved. With such a conception as this, deep-rooted and holding sway for several centuries, it was inevitable also that laws and all important social records should have been similarly conveyed. Thus the common necessity arose of including in the schools of youth a training in the Greek and Latin languages, and for some time also the Hebrew. Especially was this true after the universities became a factor in the field of education. The entrance of the idea that each man should be able to read the truth for himself meant a complete transformation in ideals as to the education of children and youth.

The important result as it affected secondary schools was the development of a richer literature in both English and German than could have been possible under conditions previous to the Reformation. As a consequence of laying emphasis on the diffusion of intelligence in the matter of fundamental religious teachings among the masses, there came a revival of the study and perfection in use of the Germanic tongues. The decisive attitude and powerful influence of Luther gave back to the German people their own language little affected by the Latin contact. The political and religious situation in England, however, brought about a far different result with regard to the English language.

As a consequence there exists today a peculiar problem among English-speaking people concerning the relative value of Latin as a high school subject. The carrying over of this

interest in Latin, together with the wave of enthusiasm for training in the use of the English language and an appreciation of its literature, have laid a heavy burden on our high schools. Fully one-half the time of many of our best American high schools is given to the teaching of language. This fact, together with the artificial and unrelated way in which much of this teaching is done, has naturally raised the query as to the real economy of the system.

In the matter of physical training the modern age has "come back" most wonderfully to that which was best in the Greek conception plus what the scientific spirit, set in motion by the Greeks, has developed and disclosed concerning the great constructive principles of matter and energy as applied to human life and physical well-being. We still accept with complacency as suitable exercises for youth the foot race, jumping, wrestling, hurling the discus, and indoor ball games, very much in the fashion of the days of the Greek youth.

In mental training, in addition to the language work already mentioned, we use practically the same materials in our geometry classes as those used in ancient Athens. The essentials of our algebra came into the medieval schools, and so on down to the present day. But there has been more recently added most of history and geography and all of physics, chemistry, and biology. Astronomy has come down to us freighted in its nomenclature with names borrowed from Greek mythology and from the picturesque imaginings of early astrology.

In more recent times, through the reorganization of the fundamental industries, much that was incidental to home life has had to be transferred to the schools or the counterpart found in the exercises there set up for the training to skill and judgment in the everyday, fundamental relations of life. Thus has come into the high school the problem of vocational training, and along with it a much larger share than heretofore in shaping the social habits and ideals of youth.

At the same time the influence of the establishment of ideals on a basis of social caste still persists. It is very difficult for the schools to get away from the popular tradition that all true learning must be dissociated from the fundamental occupations and industries involving manual labor and skill. Over against this we see the influence of the tremendous development that has been and is being made in industrial and commercial growth. These interests cry loudly for a place and a hearing as to their needs in the organization and management of the schools. Over and above all of this Democracy insistently demands equal opportunity and equal fitting, in accordance with individual capacity and inclination, in all that is essential both in learning and in skill.

These later movements are as yet little understood. The minds of those who direct our educational affairs are swayed between this popular demand for efficiency in vocations and the fear of losing from our schools some real values that may weaken, fundamentally, our most cherished social institutions. The struggle is not unlike that of the schools of science against the scholastics, and resembles the development in cities of the commercial aspects of education and the use of the vernacular in medieval and early modern times.

In spite of all debate and difference, readjustments are rapidly moving forward. It therefore behooves those who are to have the direction of education in our secondary schools to study earnestly and in a spirit of open-mindedness all the aspects of this problem and the forces, past and present, which have produced the situation as we now find it.

CHAPTER II

DEVELOPMENT OF FUNCTION

A REVIEW of the origin and growth of the high school has shown us various forces entering into its development at different stages. It is a characteristic of any institution, when left to an undisturbed development, to become static as to type and function. Of no institution, perhaps, is this more emphatically true than of the school. We have seen, however, that in the evolution of education disturbing forces have appeared. The introduction of these new forces at different stages has interrupted an otherwise static mode of functioning, and so the development has been in cycles rather than in a straightforward movement.

The primitive stage of the education of youth, as we have seen, was intensely practical. Later, idealistic elements characteristic of the time came into the scheme. With the Greeks this appeared in the development of art in architecture, in literature, and in beauty of the human form. Still later in this era came the philosophers in their attempts to account, in a logical way, for the universe and for man's place and function therein. It was at this stage that the formal instruction of youth assumed more definite form and became, for the time being, static in type.

The change to Roman sway brought little that was striking. In practical affairs more attention was paid to training for war and for politics. But as the Greek became the schoolmaster to Roman youth, the main features of the system continued in established grooves. Here again, however, the new element in movement grew out of the renewed emphasis on practical lines. War brought conquest, and with it an intensi-

fied interest in politics and in law-making. Thus Rome added jurisprudence to the accumulation of learning; while in art, literature, and philosophy, aside from the legal elements that filtered in, progress followed the lines laid down by the Greeks.

The breaking up of the Roman Empire at first brought little change except to retard and indeed to stay the growth of education. The influence of Christianity, however, soon began to impinge upon the extremely static and ingrown condition which resulted. The Greek scholars in the East and the various religious orders in the monasteries of the West became little more than custodians of the old learning.

Meanwhile the development of new nations — and with these the rise of a new conception of internationalism — brought a new and vigorous demand for practical training. Commerce arose, with the resultant quickening of all industrial life, and men began to study more seriously the arts of peace. Greek mathematical philosophy gave place to the arithmetic of commerce; demand for new routes of commerce brought a new astronomy and the science and art of navigation. The Latin language, which had so long held sway at court, in law, and in statecraft was unsuited to the needs of shipmasters and the marketplace. As a result schools for the training of youth in the use of the vernacular were organized.

It remained for the Reformation to add its force to that of the new scientific spirit so rapidly developing, with the result of the ushering in of a new cycle in the development of education. This was accomplished chiefly by the emphasis put upon the teaching of the use of the vernacular to the children of the masses as a means for the general dissemination of truth. With this new cycle came the elementary school and a general adoption among western nations of the idea of universal education, at least in the rudiments of learning.

The static condition of the medieval period has projected itself, however, far into this modern cycle. The chief result

has been a persistence of ideals in regard to the preparation of youth for college and the higher learning of the universities. This has gradually brought about a conception of dual function for secondary schools. In Europe this conception has manifested itself variously. Side by side with the *Gymnasium* have developed the *Realschulen*. The organization of vocational training is a system separate from that of the academic system.

In this country there was first a breakdown of the college preparatory school as a school for the masses. After a period of sporadic development in the form of "academies," there came the development of the "English high school" in Boston, with the avowed purpose of meeting the needs for which the Latin schools were failing to provide. It has required nearly a century of struggle between the static condition produced by the coöperative organization of the earlier colleges and their preparatory schools and the demands of practical interests to bring about a real movement toward complete adjustment of this situation in the United States.

In this instance there enters into the problem the influence of a powerful ideal, rapidly becoming a real demand, in the form of requirements for the duties and privileges of citizenship in a democracy. It is in the light of such a situation, with the background of evolution which has produced it, that we must consider the functions of the modern high school.

Our study thus far has revealed the following functions of the schools of the secondary period as they have developed: (1) a preparatory school for college and university training; (2) a school for vocational training; (3) a preparation for citizenship in a democracy. And throughout all these there should be full opportunity for the individual to develop to the full his own individual possibilities for service, for culture, and for enjoyment within the limitations of social well-being. There is also to be added a function which has more recently

dawned upon the consciousness of the educational world. This is the function of guidance. The very suggestion of the multiple functions in training as above mentioned indicates both the need and the general significance of this additional function. Such a function means such advisement, and such study of individual capacities and limitations as they appear in school activities, as shall aid the individual in selecting for himself the best possible training for the development of his capabilities along normal lines.

We have seen how the static periods in the cycles of development have produced ever increasing accumulations of learning as a result of man's activity in the arts and in philosophical discussions. The introduction of practical demands has always been more or less distasteful to those of scholarly pursuits and interests. As a result we find the tendency at first to have been for a distinct development of two types of schools — practical and cultural. Gradually, however, the interests that were at first represented by separate organizations have been merged, until now we have what is called the composite or cosmopolitan high school.

After all, the only essential difference between a college preparatory school and a vocational school is the fact that in the former case the pupils are expecting to extend their preparation for vocations beyond the high school. This naturally calls for a broader foundation in general educational acquirements than might be necessary if the high school were to give the final training.

The original function of secondary education was largely in the interests of certain classes. A little later this became an interest chiefly of religious training. The present situation finds the high school in this country distinctly an instrumentality of society, under state sanctions, for the promulgation of intelligence and the development of skill necessary to good citizenship and efficient social service. It thus becomes necessary to place first of all in function these fundamental

interests of society. The inevitable outcome, however, of such determination of obligation is that there must be, in the nature of the case, multiple functioning as far as individual interests are concerned.

In securing for society the effective service that is needed and in fitting the individual for his proper calling, there must necessarily be some generic differentiations as to kinds of skill to be acquired. Along with this will come also the need of variation in principles and hence of certain types of knowledge to be applied in using these skills intelligently. On the other hand the knowledge, the ideals, and the conduct to be sought as qualifications for civic obligations and privileges will be largely homogeneous. This, then, gives us a basis for classification of the general functions of high school education as they have thus far developed.

There are, however, certain intermediate functions more or less accessory to these general functions, yet calling for some distinct consideration. There are limitations and defects to be made good, which require specific treatment and which therefore become within themselves distinct aims of high school education. In this class may be included: (1) unsocial types to be accounted for and specially treated; (2) those whose previous education has only partially prepared them for the work of high school grade; (3) those for economic reasons compelled to become bread-winners, yet desiring to pursue their studies in order to improve their industrial condition and secure for themselves the best possible results. These classes make desirable some provision for special types, for unclassified pupils, and for those who cannot give time to study during the ordinary school session. Thus we have the special group or the unclassified group, and the night school and the vacation school as representing the social response to these peculiar needs.

In a somewhat different class still are those who have been deprived of sight or hearing. These also present a peculiar

problem, which is generally met by provision for special classes, or more frequently by means of special institutions.

In order that the high school may function adequately in all respects, it becomes necessary to determine, as far as possible, what skill, what knowledge, what habits, what ideals, what social attitudes are to be sought through its activities; to make such provision of a special type as is necessary in order to take care of all unusual conditions; and to provide ways and means for the necessary guidance of pupils where differentiations are required.

Thus we have evolved the modern composite high school, to be found in every important center of population in the country. It is no longer to be thought of as functioning solely as a preparatory school, although that is one form of service which it still gives to society, and gives admirably. Its chief service must henceforth be on the basis of furnishing a preparation for life. To do this its functioning must of necessity be differentiated. It must take within its scope of activities fundamentally a training for citizenship and for individual health and strength; training in the fundamental arts and forms of skill that underlie the great industrial fabric of society; training in conduct, in social ideals, in coöperation, in a genuine appreciation of man's legacy to posterity.

To accomplish all this the high school must set up varied activities; it must become a real community taking hold of the great issues of community living and community service. It must not only offer the varied lines of training but it must also aid the individual to a proper adjustment to the group of activities best calculated to enable him to be at his best as an individual in the community, both now and in the future.

In order to accomplish all this most effectively, it must learn to relate more of its academic teaching to actual life, needs, and interests. It is to be a central educational resource of the entire community. It is to help the out-of-school

WITHDRAWN

classes who feel the need of training. It is to be the conveyor to the masses of the best results of research in the fields of art, history, and science through its library, its laboratories, and its extension courses. It is fundamentally the center for social uplift, educationally, to the entire community by which it is maintained.

CHAPTER III

THE HIGH SCHOOL DEFINED IN MODERN TERMS

If we were considering the secondary schools of France or of Germany we should no doubt find the matter of defining these schools comparatively simple. They are organized as types for more or less specific purposes, and have settled, long since, into customary ways of functioning. Even in this country, if we were to take Massachusetts or New York as a basis for defining high schools, we should find a situation about equally simple. But when we undertake a definition of the modern American high school that shall really define without omitting any essential feature, the problem is far from easy. The very nature of the development of this "middle" institution, as Elmer E. Brown has aptly called it, tends to give it wide diversity of character. Some inkling of this diversity is found in the preceding discussion of the development of functions.

In seeking to formulate such a definition there come to our attention several characteristic elements. First the school exists as a legal entity. Through constitutional provision or mandate, and through statutory provisions varying widely in different states, society has made possible the establishment of the high school. The most fundamental consideration, and one recognized universally throughout the states, is the fact that the high school is established as an essential part of the common school system.

When it comes to the place of the high school in the period of common school education, the laws of states speak but rarely. In some instances the lower limit is fixed at comple-

tion or graduation from the eighth grade or year of the elementary school. In the case of two or three states a high school of "the first class" is defined as including "four years beyond the elementary course." In a large majority of the states the laws are silent on this phase of definition. On the other hand, a number of states make special statutory provisions for high school districts, including city or town, township, county, or a special district to be formed out of territory from one or more townships or counties and usually designated as "union districts."

The territory to be served by high schools is also further indicated in some instances by laws regulating and providing for the payment of tuition. In other cases types and standards of high schools are fixed or modified by enactments providing for the subsidizing of high schools or certain kinds of work in them. In several instances the qualifications of those who are to teach in high schools are also specifically designated. In all these matters, however, the legislation is widely varied in form throughout the states and can hardly be said to aid us much in our effort to find a comprehensive definition.

As it now appears, this seeming neglect, heretofore, to fix legally the lower and upper limits of high school education in most states seems fortunate. The very decided movement toward a lowering of the limits so as to include the seventh and eighth grades, and the less marked though readily apparent movement to include two years more under the upper limit, would have met a decided obstacle in any such static condition as general legislative definition might have produced. In this respect it is probably just as well that states which have undertaken to define the scope of high school work have usually done so more in terms of the kind of work to be done than in the number and particular grades or years to be included.

It is interesting to note in this connection an attempt at legal definition like that given by Cubberley in his ideal

"Revised School Code." Section 57, Classification of Schools, reads as follows:[1]

For purposes of classification and the apportionment of funds, the following classification of elementary and secondary schools shall be made:

(1) The elementary-school system shall be considered as embracing the eight years of instruction, in the subjects required to be taught by state or district authorities, in grades one to eight inclusive, in the public-school course. Second-class attendance-sub-districts may offer a nine years' course of instruction, but for purposes of apportionment such shall be considered as part of the elementary-school course. All Kindergarten instruction preceding the regular elementary course of instruction shall also be regarded as a part of the elementary course of instruction.

(2) The secondary-school system shall be considered as embracing the four years of instruction from the ninth to the twelfth year inclusive of the public-school course. In all city school-districts the secondary-school facilities must include the twelfth year of instruction, and may be extended to include the thirteenth and fourteenth years.

Then Mr. Cubberley adds another section defining the intermediate school:

Intermediate schools, beginning with the seventh year of elementary-school instruction, and including the eighth and ninth years, with the tenth year optional, may be organized by the board of education for any first-class sub-district.

Here we have a definition by grade limits practically like that now in force in the state of California. The typical grade limits for elementary and high school are duly recognized; but there are also added the optional extensions both upward and downward in accordance with the present trend of thought. It will be noted, however, that there is in this definition the suggestion of a new name for the school which is to include grades seven to nine, with the tenth optional. This is called the "intermediate school," using the same name as now given to schools of like grade in the city of Los Angeles. There seems to be a growing sentiment in favor of such a

[1] E. C. Cubberley, *State and County Educational Reorganization.* Macmillan, New York, 1914, pp. 81–82.

designation instead of the name "junior high school" which has been so much discussed in the past two or three years.

Other interesting definitions of the high school have been formulated in the legislation of states. Maine defines in terms of the program (course) of studies as follows:

> The course of study in the free high schools shall embrace the ordinary English academic studies which are taught in secondary schools, especially the natural sciences in their application to mechanics, manufactures, and agriculture; but the ancient and modern languages and music shall not be taught therein except by direction of the superintending school committee having supervision thereof.

This presents a case where distinct emphasis is on the practical as opposed to cultural subjects in education.

In Michigan a high school is defined as "a graded school maintaining twelve grades of work with at least two teachers devoting their entire teaching time to the ninth, tenth, eleventh and twelfth grades."

The substance of the Minnesota definition of a standard high school reads as follows:

> 1. It shall be in session not less than nine months in the year.
> 2. It shall admit, free of tuition charge, students of either sex resident in the state, but those only who shall pass a proper examination in arithmetic, spelling, English grammar, reading, writing, geography, and United States history.
> 3. It shall have regular and orderly courses of study, embracing all the branches prescribed by the State High School Board, and required for admission to the collegiate department of the State University, and an optional English or business course in addition thereto or in lieu thereof.
> 4. It shall be subject to such rules and regulations, consistent with the provisions of the law, as may be prescribed by the State High School Board, and shall be open to visitation at all times by any member of such board, and by any inspector thereof.

In Nevada the high school is declared to be a "school in which subjects above the eighth grade, according to the state course of study, may be taught." The real definition, in

terms of the program of studies, is thus left to the state authorities, who decide what shall be taught in the schools.

Vermont gives a more elaborate definition. According to that state high schools are of the first, second, third, or fourth class, which means that they offer four, three, two, or one year courses respectively. They begin after an elementary course of nine years. School must be maintained at least thirty-six weeks in the school year and shall be taught by teachers of competent ability, of good morals, and legal certification; and in each high school instruction shall be given in the English language and literature, higher mathematics, history, natural science, and ancient and modern languages; and instruction may be given in political, social, moral, and industrial sciences, commercial subjects, music, and physical culture, and in the fine and mechanical arts.

The West Virginia definition is as follows:

> High school shall mean a school or schools graded according to the scheme formulated by the committee on course of study and devoted exclusively to instruction in all work prescribed for the high school grades.

It seems evident from the above that, while there is, in general, a common understanding as to what should be included in a fully organized, four-year high school, there has been little success in defining high schools as expressing a definite aim and purpose on the part of society in their establishment.

As to legal definitions affecting the territory to be served, there seems to be no good ground for differences of opinion. The large cities find it necessary to divide their territory so as to make tributary to a given high school the maximum number of elementary schools whose graduates can be served with reasonable economy. There is no good reason why the rural schools about a given village, town, or small city as a center should not be tributary to a high school thus located at the general service center of the territory involved.

But there is a difference in the case presented when high schools of a special character are designated for any of these districts; or when subsidies are granted for the teaching of certain subjects, usually of a vocational character, to any of the high schools of a state. There seems to be reasonable ground for doubt in the minds of many as to the wisdom of either of these courses. We think of the modern high school as the school of highest type for the masses. It is to represent, as far as it goes, equal opportunity, *according to capacity or individual inclination*, to the children of all classes. But if the type of school is predetermined, either by statutory designation or by the influence of a subsidy, it is contended that there will thus be made possible the introduction of the caste principle as opposed to equal opportunity regardless of parental occupation or interests. If the high school is to mean equal opportunity, such obstacles as payment of tuition must be removed, as far as individuals or families are concerned, and the schools left free to develop broadly so that their curricula may meet the needs of all.

In other words, the modern high school when properly defined, either as a legal entity or otherwise, must be broad enough and free enough in scope and in possibilities of development, to safeguard this important fundamental ideal of democracy. It is a matter of real concern that teachers and educational administrators as a rule take so little interest in these legal definings and limitations which are constantly arising in connection with the evolution of our educational system. Even those in highest authority educationally, in their efforts to secure a law without a "squeak" in it, will innocently give their approval to something that is sure to elicit a "howl," and all because they have failed to consider the bearings, in detail, of the legislation proposed.

The significant thing about the following tables, pages 22 to 39, is the evidence of a common ideal which in essentials gives homogeneity to what at first appears a hopeless jumble.

Other significant facts are the evidences of progress in the newer states and in the South; the indications of recognition of the wider scope of high school training; the more logical development of the high school district; the definite purpose of making the high school a school free to all who are entitled to its service.

When once the status of the high school as a legal entity has been determined, the next important element in its definition is its function. As we have seen in tracing the development of functions in a preceding chapter, the aims and purposes of high school education are, in a sense, very complex. For the purposes of definition, however, these may be reduced to two: (1) the function of the high school as a social institution; (2) the function of the high school from the standpoint of the individual to be educated.

As a social instrumentality the high school is expected to accomplish at least three things: (1) to turn out young people trained for intelligent service; (2) to prepare for that social and industrial intelligence and moral strength and rectitude necessary to good citizenship; (3) to prepare such individuals as are capable and have the desire to obtain further training in some higher institution of learning.

To the individual the high school offers a means of securing for himself social, industrial, and intellectual betterment. Here he is not only to secure a more complete command of the arts of the school, but he is also to learn to understand and apply principles to the solving of problems as he meets them in life. Put in another way, the school should mean to him the supplying of those experiences available within the natural limitations of such an institution, that shall minister to the development, on the one hand, of all worthy individual characteristics and abilities; and, on the other hand, to the supplying of those "controls" and ideals which he should share in common with all members of the social group to which he belongs.

TABLE SHOWING PRINCIPAL LEGAL FACTS

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Alabama (Laws of 1915)	City and town boards may establish. County high schools established by State High School Commission.	District high schools of cities and towns. County high schools.	City councils appropriate on estimates of boards of education. In case of county high school site and building donated. $3000 annually appropriated from treasury for teaching.	No provision. County schools make tuition unnecessary, except matriculation fee to outsiders.
Arizona (Laws of 1913)	In districts having average daily attendance of 200 or more; by vote of electors.	District and union district. County high schools.	By annual tax levy and state aid in equal amounts.	A "reasonable" tuition fee collected from home district of non-residents.
Arkansas (Laws of 1913)	Establishment mandatory upon city and town boards.	City and town district.	Out of regular funds provided by taxation and distributable funds.	All schools are free.
California (Laws of 1913)	By vote of electors in districts with minimum school population of 200.	City or district high schools. Union high school districts. County high schools.	By special tax levy. State high school fund, $\frac{1}{3}$ apportioned irrespective of attendance; rest pro rata.	Board may require amount of cost per pupil less amount per pupil received from state. Paid by tax on non-high school territory.
Colorado (Laws of 1912)	Boards of education authorized to establish.	District high schools, first and second class; union high schools; county high schools, first and second class.	District by local tax. County by special tax over county not to exceed 2 mills on a dollar.	Board determines for non-residents.

CONCERNING HIGH SCHOOLS, BY STATES*

TEXT-BOOKS	CONDITIONS OF ADMISSION	SUPERVISION AND INSPECTION	TEACHERS' QUALIFICATIONS	OTHER PROVISIONS
High school texts prescribed by local boards.	In districts controlled by local boards. In county school must be graduates of elementary schools.	By local district superintendents and by county boards respectively.	In districts those licensed by local boards; in counties those holding first grade or life certificate granted by State Board of Examiners.	
Prescribed as uniform series by State Board of Education.	Promotion from eighth grade.	General supervision by state board.	No special provision.	Vocational courses may be organized.
Adopted by boards from list prepared by state superintendent.	Determined by local boards.	Direct by principal or superintendent of district. General by county and state superintendents.	No special qualifications required by law. Local boards may examine.	
Selected by boards.	Any graduate of elementary school.	State department. University also inspects and accredits.	Special high school certificate required.	May establish military companies. Post-graduate courses permitted.
School boards select. By vote of district may provide free text-books.	Certificate from county superintendent of graduation from eighth grade.	No special provision. University inspects and accredits.	Special certificate covering high school branches is required.	Emergency fund for districts meeting with misfortune.

* In preparing this table no account has been taken of decisions affecting the laws. The dates under "State" indicate the latest available session laws consulted.

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Connecticut (Laws of 1912)	Town may establish.	Approved and those of lower rank.	Chiefly local tax. State aids in support of high school library and laboratories.	Towns not having high schools may pay tuition at non-local school.
Delaware (Correct to 1915)	No special provision.		The State treasurer pays to each high-school $1000, or *pro rata* up to a certain amount.	Special legal permit to certain cities.
Florida (Correct to 1913)	Authorizes county boards to establish when requested by patrons and when number of pupils requires it.	Junior, grades nine and ten. Senior, grades eleven and twelve.	Local tax and State aid.	
Georgia (Correct to 1913)	No mention of high schools.			
Idaho (Correct to 1915)	Joint rural may be established by vote of electors.	District and rural high schools.	Taxation local.	Free; paid by home district.
Illinois (Laws of 1915)	No special provision except for township high schools. Latter by vote of electors on petition.	High schools as parts of city systems, not specially authorized. Township and district high schools.	First as part of general system. Township schools by tax over township.	Paid out of distributable fund.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Boards determine, subject to rules of State Board. May be made free.	By local board.			Transportation of pupils attending approved non-local schools must be paid by town.
Free text-books mandatory on boards.				
By State Textbook Commission. Local boards adopt for high schools.			Special or State certificate.	The course of study is prescribed by the county board.
Uniform state list, but independent districts not included.				
Adopted by State Textbook Commission. Certain cities excepted.		By boards.	First grade, or State high school certificate.	State board prepares course of study.
Adopted by local, city, and high school boards.	No special provision, except in township. Graduates of eighth grades in this case.	General by county superintendents, although not specially provided. Inspection for accrediting by state university, and for recognition by state department.		

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Indiana (Correct to 1915)	Trustee may establish township school for twenty-five qualified pupils. District high schools are a department of graded schools.	Those departments of graded common schools, known as commissioned and non-commissioned. Township high schools, county high schools.	Township schools by tax on township. County schools by tax over county and by donations. City schools as part of graded system.	Regulated by school trustees.
Iowa (Correct to 1913)	Boards of directors have power to maintain schools of higher order.	District and county high schools. Township high schools.	Local taxation. County schools by tax over county not to exceed 2 mills. State aid in some cases.	To be paid by home district.
Kansas (Correct to 1915)	City schools organized by boards. County high schools by vote of people. Townships may establish.	City, first and second class, county and township.	Local and county tax, respectively. State aid for industrial training. County high school fund (Barnes law).	Tuition free except in township schools for those from outside of township.
Kentucky (Laws of 1914)	Not specifically mentioned in law. Part of graded common school system.	District and county.	As part of common schools.	Fixed by boards for non-residents.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
State uniformity. Books adopted by State Textbook Commission.	Fixed by trustees.	By State Inspector.	Examined in branches to be taught, by county superintendent. Papers may be graded and certificate issued by State Department.	Commissioned high schools are defined as including not less than 4 yrs. following 8 yrs. of elementary school. Studies are enumerated.
District or county uniformity optional. Free texts also optional.	Determined by boards.	State Board of Administration and State Superintendent.	County or State certificates.	
State uniformity. Books adopted by State Textbook Commission.	Determined by boards of education, but non-resident pupils may be certified by county superintendent.	State Board of Administration inspects and accredits. Rural high schools by State Superintendent.	City boards examine and certify.	High school fraternities debarred.
By Board of Text-book Commissioners. By boards of cities of first, second, third and fourth class.	Part of the graded system.	That of the common schools and by State Departments.	State Board of Education issues certificates.	

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Louisiana (Correct to 1912)	May be established when necessary by parish board, subject to approval by State Board of Education.	City or parish schools.	Poll tax in parishes and state funds distributed on basis of school population. School site and buildings must be provided by parish.	No provision.
Maine (Correct to 1915)	Towns may establish not to exceed two high schools. Two or more adjoining towns may unite to establish.	Free high schools.	By local tax and by state aid in a sum amounting to one half of sum actually expended for instruction. Maximum aid $250.	School trustees of home district must pay. State will reimburse.
Maryland (Correct to 1914)	Provided for by county commissioner. When a district or districts present a building.	District and county.	Out of general school fund. State aid in two groups.	
Massachusetts (Correct to 1915)	Compulsory in cities and towns of 500 or more families or householders. May be established in others.	City or town, and union high schools. Manual training and industrial schools. Evening high schools.	Local taxation and distribution of income of state fund based on property valuation with some exceptions. State aid to approved schools.	Paid by district from which pupil goes. Reimbursed in some cases.
Michigan (Correct to 1915)	By board of trustees when ordered by vote of graded school district. By vote of electors in rural townships.	Graded district and rural.	Out of general local and state funds.	District board may admit non-residents on tuition. Home district may pay and may also provide transportation.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Uniform list selected by State Board of Education. Certain cities excepted.		General, by State Board of Education.	Must hold first grade certificates.	State course of study to be followed.
Local boards adopt. Free text-books made mandatory upon all towns.	Determined by school committee.	By school committee.	No special provisions.	General outline of course of study.
County boards adopt. Free text-books, subject to limitation as to funds for same.	Pupils must present certificate of vaccination. According to qualifications.	By county school commissioner and by some one designated by State Board of Education.	Any graduate of pedagogical department of reputable college or university.	State aid permitted according to class.
Adopted by school committee. Free to pupils. Mandatory.	Determined by school committee.	Superintendent, principal, and in part by State Board of Education.		Medical inspection. Transportation provided for. Manual training must be taught in cities and towns of 20,000 or more.
Adopted by local boards from lists and prices on file in the State Superintendent's office.	Determined by local boards.	No special provision. Inspected and accredited by the university.	No special certification required.	

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Minnesota (Correct to 1915)	Established by school boards.	District high school.	Local taxation, State aid.	Tuition is free to residents of State who are qualified.
Mississippi (Laws of 1912)	Boards of trustees may establish in separate school districts.	Graded high schools. County high schools and agricultural high schools.	Out of the funds established by taxation, and the distributable funds. State aid, $1500, for agricultural high schools.	May be fixed by school trustees, or schools may be made free.
Missouri (Correct to 1915)	Boards of directors may establish in cities or towns. Central or union high schools by vote of districts.	City or town, central or union, and rural.	Out of general local and State funds. State aid for teachers' training courses.	Fixed by boards. Certain children exempt.
Montana (Correct to 1915)	School trustees determine branches to be taught in public schools. County high schools by vote on petition.	Graded schools. County high schools.	Out of regular public school funds. County high schools by tax on county. By district levy and distributable fund, or by county tax for county high schools.	Schools are free.
Nebraska (Correct to 1913)	District trustees may establish by order of district. County and rural by vote of electors.	District and county. Rural high school.	Taxation and distributable funds in districts.	Free, and paid by home district.
Nevada (Correct to 1915)	Established in districts by school trustees. County high schools by vote of county.	Graded high schools. County high schools.	By county tax in case of county high schools or absence of high schools in county.	Tuition free.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Adopted by local boards from lists and prices on file in the State Superintendent's office.	Determined by definition of school.	By State High School Board through inspector appointed by that body.	Not specified in law.	High schools defined.
High school texts not included in uniform list, provided by law for the state.	Determined by school trustees.	By trustees and county superintendent.	Not specified.	
High schools affiliated with university may select, through their boards. Others subject to county uniformity.	Determined by boards in cities and towns. Fixed by law for central or union schools.	By state superintendent for purpose of classifying. Also inspected and accredited by university.	Those of central high schools must hold first-grade county certificate or a state certificate.	
Selected by city and high school boards. Books may be free at option of electors.	By gradation. In county schools by rules of board.	By district and county superintendents and boards. By State Superintendent.	Must hold professional or state certificate, or be graduate of college, university, or recognized normal school.	
Districts purchase and loan free, or pupils may purchase.	Free to graduates of eighth grade.	By district, county, and State Superintendents. Inspected for accrediting by university.	Graduate of university or normal school or holder of professional state certificate.	High school course provided for. High school defined.
Purchased by boards. Must be loaned free. May be sold.	By gradation in districts. By county board and principal in county school.	By district superintendents and principals.	High school certificate.	

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
New Hampshire (Correct to 1915)	By vote of any district, or union of districts.	District and joint district.	By local tax and by tuition for non-residents paid by state.	Paid by state.
New Jersey (Correct to 1915)	By local boards as part of graded system.	District and union district.	Local tax and state aid.	Free.
New Mexico (Correct to 1913)	Established by city boards at their own discretion.	Graded and county.	As part of public school system and by county tax.	Determined by local boards.
New York (Correct to 1914)	Academic departments established at discretion of boards of education.	High schools known as academic departments of public schools.	Local tax and state aid, in equal amounts.	State pays tuition of non-resident pupils.
North Carolina (Correct to 1915)	High school subjects may be taught in schools of more than one teacher. Not to interfere with thorough elementary work. Township and county schools may be established.	As part of common schools, county and township high schools.	Local tax and distributable fund, county tax and state aid.	Free.
North Dakota (Correct to 1915)	Established by boards of education.	Two, three, and four-year schools.	Local tax and state aid.	Free.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Local boards adopt. Free text-books, mandatory.	Determined by boards.	Schools are approved by superintendent of public instruction.	Certification by local boards.	High school defined.
Local boards adopt. Free text-books, mandatory.	Determined by local boards.	Inspected by state inspector under State Board of Education.	Not specified.	Compulsory attendance for those under 17 years, and through grammar school.
Adopted by district and county boards of education.	By gradation.	No special provision.	No special provisions.	
Adopted and designated by local boards. May be made free.	Fixed by the Regents of the University of New York of which academic departments are a part.	By the State Commissioner of Education.	Must have minimum of professional training.	State aid to provide for teachers' training classes.
Adopted by local boards.	Prescribed by State Superintendent.	By county board and State Superintendent.	State high school certificates.	
Adopted by local boards from lists and prices on file in the State Superintendent's office.	Determined by boards, and under rules of state board.	By state high school board, or by inspector appointed by that body.	Not specified in law.	

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Ohio (Correct to 1914)	Board of education may establish when deemed proper or necessary.	District, township, union, or special district high schools. Classified into first, second, and third grades.	District high schools from local tax and state school funds. Township or union by special tax in addition to tuition fund. State aid.	Determined by boards.
Oklahoma (Laws of 1913)	Boards of education of cities of the first class and all independent districts must establish.	City high schools.	By local tax and distributable funds.	May be charged to non-residents by boards.
Oregon (Correct to 1915)	Established in districts on vote of electors. Established in counties where a majority favor a county school. By union of districts.	District, county, and union district high schools.	By local tax and distributable funds.	Free; payable by tax on non-high school territory in each county. County schools free.
Pennsylvania (Correct to 1915)	Boards of education may establish. Directors of two or more townships or school districts may establish joint high schools.	District and joint high schools. Also schools of first, second, and third grades.	District tax and state aid.	Paid by districts, except that amount of state aid is deducted
Rhode Island (Correct to 1915)	Established by cities and towns.	Town or district high schools.	Local tax and state aid to the amount of $20 per pupil.	Paid by home districts.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Adopted by boards from lists and prices on file in state commissioner's office.	Determined by definition.	By a representative board of inspectors under the direction of the State Department. One inspection serves all purposes.	Teacher's high school certificate required.	
Uniform series adopted by State Textbook Commission.	Determined by boards.	By city superintendents and by State Board of Education.	A general State certificate or a state high school certificate is required.	High school fraternities forbidden. Agriculture in all courses approved by state.
Selected by State Textbook Commission. Certain cities exempt.	Must pass uniform eighth grade examination.	By city and county superintendents and by principals of county schools. By State Superintendent of Public Instruction.	Graduates of normal school, collegiate institution, or hold state certificate or diploma.	Two years of course prescribed by state superintendent. Other two years optional, by county or district boards.
Local boards adopt. Free text-books, mandatory. Districts paying tuition also pay cost of texts used by non-residents.	By examination.	By the superintendent of city, borough, or county in which located, and by State Department.	Must be certificated for branches to be taught.	High schools receiving state aid must teach agriculture.
Local boards adopt. Free text-books.	Determined by local school committees.	By the town superintendent and State Superintendent.	Determined by State Board of Education.	Transportation of pupils may be provided.

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
South Carolina (Correct to 1913)	May be established by election by any county, township, aggregation of townships, union of districts, or incorporated town or city.	Four-year, three-year and two-year high schools.	Local tax and state aid.	
South Dakota (Correct to 1915)	In districts may be established at discretion of boards. Township high schools on petition and election.	District and township.	Local tax and distributable fund.	Shall be paid by home district, not to exceed $2.00 per month.
Tennessee (Correct to 1915)	Local boards of municipalities may establish. County high schools by county court on discretion.	County high schools and high schools of municipal corporations.	By local and county tax respectively. State aid.	
Texas (Correct to 1913)	Not specifically mentioned in law. Schools may teach such branches as trustees may agree upon or state superintendent direct.			
Utah (Correct to 1915)	Counties constitute high school districts, except cities of first and second class. Counties may be subdivided for high school purposes.	District, union district, and county high schools.	Local tax and distributable funds. ½ mill tax by state.	Schools are free.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Series prescribed by State Board of Education, except in independent districts.	Pupils must have completed state common school course or its equivalent.	State high school board and high school inspector.	Must hold first-grade certificates. (Rule of state board)	
Selected by district and county boards. May be made free.	Must be graduates of eighth grade or equivalent.	By state superintendent and local superintendents. Inspected by state superintendent.	State certificate or life diploma required.	
Uniform state adoption by State Textbook Commission. Independent districts exempt. State uniformity. Books adopted by State Textbook Commission.	Pupils enter from fifth grade.	Local authorities. County high schools by county superintendent. State inspection.	High schools receiving state aid must employ only teachers licensed by State Board of Education. County superintendent makes rules in case of county high schools.	Grades six to eight inclusively are designated secondary schools. Any city or town by voting additional tax may extend scholastic age and prescribed studies accordingly.
Adopted by State Textbook Commission, except for cities of first and second class.	Regular graduation.	Local and county supervision. State Board of Education.	No special provision in case of high schools.	State Board of Education prescribes course of study.

State	Condition for Establishing	Kinds of High Schools	Maintenance	Tuition
Vermont (Correct to 1915)	Towns must maintain or provide higher instruction to qualified pupils.	High schools and academies, first, second, third, and fourth class.	Local tax and state aid.	Paid by towns not having high schools of first class.
Virginia (Correct to 1914)	Any county or district board may establish, subject to rules of State Board of Education.	District, joint district, and county.	Local tax or tuition fee, and state aid.	May be charged to all pupils. Schools receiving state aid open on equal terms to all.
Washington (Correct to 1915)	Made a part of common schools.	District and union high schools.	Made mandatory. Local tax and distributable funds. Bonus by state to union districts.	Free.
West Virginia (Laws of 1913)	District high schools by vote at option of board.	District high schools. Joint high schools.	Local taxation and distributable funds. State aid.	Free.
Wisconsin (Correct to 1915)	Any town, village, or city having at least 25 persons prepared for work may establish.	Free high schools, joint district high schools, county schools of agricultural and domestic economy. Township high schools.	Local tax and state aid to certified schools equal to one half of actual expenditure by district. Total aid limited to $25,000 for the state.	Free.
Wyoming (Correct to 1915)	Provides for free high school districts.	High school districts and district high schools.	Local tax and distributable funds.	May be charged for non-residents.

Text-books	Conditions of Admission	Supervision and Inspection	Teachers' Qualifications	Other Provisions
Local boards adopt. Free text-books.	By gradation in their own town. Elementary course of 9 years required.	Under direction of State Board of Education.	High school teacher's certificates.	High schools are defined and classified as junior and senior. Transportation of non-resident pupils optional.
Selected by State Board of Education.	Prescribed by State Board of Education.	By division and county superintendents, and by state board.	Examined on branches to be taught. Graduates of colleges and universities of approved standing are exempt.	Consolidation and transportation provided for. Normal and vocational instruction provided for.
Selected by a school book commission for districts of the first class. May be made free.	By gradation. Certificate from grammar grade.	By state board of higher education, through the inspector for the state.	No special provision.	Secret societies forbidden. Four year extension course provided.
Uniform by counties. May be made free.	By gradation.	By Board of Education and local superintendent, and by State Board of Education.	High school teacher's certificate granted by state board.	High school is defined. State board provides course of study.
Adopted by local boards from lists and prices on file in the State Superintendent's office.	Completion of state course for elementary schools.	By State Superintendent through regular inspector. University also inspects for accrediting.	Principal must be graduate of some university, college, or normal school, or hold a State certificate or pass examination in studies taught.	Legalized manual training schools with state aid. Twelve weeks' instruction in pedagogy in free schools.
Must be made free or purchasable by pupils.		Principal and Board of Trustees.		Graduation admits to university.

A third important factor in defining the modern high school is that of the general plan of organization and management of the school. This is a matter to be determined largely by what is conceived to be the function or functions of the high school. The rapidly changing outlook as to the place of the high school in education is leading, among other things, to a much deeper interest in the physical conditions of the school. Much larger grounds are being demanded. The practice now is to think in acres instead of in feet. A five-acre plot of ground is no longer large. There must be room not only for a commodious building or group of buildings, but also for proper effect in the setting of the building; for athletic sports; for experimentation in gardening and horticulture; and possibly, for rural communities, in farm crops and other agricultural interests.

Similarly, the building and its internal equipment must conform to those ideals of educational activities and influences which the high school is intended to represent in the training of youth. This means that the building is to be thought of and planned, not merely for classroom work in various subjects of study, but as the place where a community is to be occupied in all the pursuits of living which go along with the training in arts and in the principles of science which make up the pabulum of a broad cosmopolitan high school program of the day.

The instructional corps is to be composed of men and women of broad culture, of special ability or skill in their respective departments, trained also in the principles and arts which constitute the teacher's stock-in-trade professionally. The members of this corps are to be organized, for the sake of economy and efficiency in their work, into a group coördinated and trained to team-work to correspond to the needs of the special type of community life for which, individually and collectively, they are to be the sponsors, the guides, the inspiration.

The student body itself, constituting the major part of the community, and for whose benefit the school community exists,

is also to be properly organized and coördinated for carrying on all the varied functions of community life as determined by the aims of the institution thus built up out of the needs of youth.

For the accomplishment of such aims and purposes the program of studies in the high school will necessarily be of a cosmopolitan character. It will need to be so planned as to admit of its extension downward to include the seventh grade, and upward to include the fourteenth grade. It will represent, in all its curricula, the fundamental demands of society for preparing the individual for good citizenship at the same time that it includes the essential training for some vocation or the preparation for professional study in a university.

In determining just what proportion of a curriculum should go to meet the demands of society, we are still at a loss for data. This is due, on the one hand, to a lack of knowledge of relative or related values, and, on the other, to the present inability to estimate achievement under a curriculum thus combining vocational preparation and training for citizenship. Much will depend upon the outcome of the effort now being made for a readjustment that shall bring about a closer relationship in teaching between the practical and the cultural exercises, without the loss of any essential quality from either.

It is readily seen that all these conditions and elements of organization and management are characteristic and therefore essential parts of a complete definition of the high school. The modern high school may therefore be more briefly defined as follows:

It is that school or those schools covering the period of youth, and expressive of social and civic needs, maintained as a part of a state's system of free common schools; they are effectively articulated with the grades below so as to carry forward, in a manner in keeping with psychological principles, the education of youth; such school or schools are unrestricted by legislation, or by any system of subsidizing, from offering

curricula and competent instruction such as to give to all youth equal opportunity in preparing for any legitimate calling or profession to which they may aspire; to this end the schools are so organized as to their curricula as to permit, in the most direct and efficient way, advance to further study and preparation in higher institutions of learning; these schools are also so organized and administered as to their curricula and government as to conserve the highest interests of society and of individuals, and to present an atmosphere and environment such as is calculated to inculcate habitual attitudes in consonance with the principles and ideals of a true democracy.

CHAPTER IV

CONDITIONS MOST FAVORABLE TO FURTHER NORMAL GROWTH OF HIGH SCHOOLS

The growth of the public high school in the United States has been marvelous, both in numbers and in scope. We have seen in the preceding chapters how it has developed in the extent and function of its activities. If one were in doubt as to its real significance as meeting a widespread demand in our scheme of education, he would find a convincing answer to his doubt in the statistics showing its growth during the less than a century since the first school under the name of high school was established.

As late as 1860 we are told that there were only forty high schools in the United States. In twenty years, or in 1880, the number had grown to 800. In 1890 there were 2526; in 1900 6005; in 1910, 10,234; 1913, 11,277. In the matter of enrollment a similar record of growth is shown: In 1890 it was 207,418; in 1900, 541,730; in 1910, 984,637; in 1913, 1,134,771. It is true that a number of conditions have coöperated to produce this increase. First of all is that of growth in population. If we compare the increase in high school enrollment from 1900 to 1910 with that of increase in population for the same decade we get the following: Increase in high school enrollment 82%; increase in population 21%. It is evident, therefore, that the remarkable growth of high schools is not due alone to growth in population. Another cause is the increase in the scope of college training of professional rank, which has attracted more young people to the preparatory courses offered free in the high schools. This is peculiarly true in relation to agricultural training. But the chief causes

of this marvelous growth are found in the industrial and social changes calling for a much wider range of school preparation to meet industrial and civic needs.

This same growth and the operation of processes leading to the evolution of the high school which we have thus far been considering are still active. Indeed, as has been suggested, the forces involved have multiplied from stage to stage. True it is that some of these remain only as a part of a structure more or less static; others, on the contrary, become more and more intensified as time advances. Our treatment of this phase of the subject would be incomplete, therefore, unless we paused long enough to study conditions with reference to the further normal growth of the schools.

We have observed how, in the past, static conditions have affected growth, confining it within established channels and intensifying development along well-defined lines. We have noted the cycles produced by each new emphasis on some practical need as the car of progress, pressed hard by some new impelling force, has lurched forward in its resultant course. The tendency of institutions to become static has been repeatedly noted. They are but the outward expression of the spirit of the race. Today they take form, their lines are established, they stiffen and solidify with use. Meanwhile the race-spirit within is vibrant with life; it surges and strains at the points of greatest restraint until the outer integument, the institution, gives way at its weakest point, and the fashioning of the institution is changed.

Among the factors which tend to produce this static condition are religious doctrines, laws, customs, national, state, and community habits. Through the secularization of education in this country the restraining influence of religious doctrines on the progress of the schools has been largely eliminated. Where it is felt at all it is as an indirect or negative force rather than as a positive restraint. In the matter of laws, however, the situation is quite different. In some instances the meager-

ness of laws acts as a stay on progress. In other cases efforts to define too particularly, to restrict in function and extent, to limit resources for maintenance below the minimum of efficiency have tended in a more or less arbitrary manner to produce static conditions inimical to normal growth.

State determination of curricula, of standards of scholarship, and of certification of teachers have operated similarly where administered formally to meet some standard fixed by law, or to determine the granting of subsidies. State and other higher institutions, by fixing many arbitrary requirements for admission, have frequently caused a similar retardation of growth in a full and normal way. Local ideals and customs fostered by those who have been trained in these institutions, but who have not kept up with the growth of the institutions themselves, have had a still greater retarding effect. In fact they may be said to constitute a considerable portion of the groundwork of this entire fabric of institutional influences which have tended to produce an abnormal static situation in our secondary schools.

This transferred influence or tendency operates mainly as a result of our methods of administering schools. Boards of education, in the nature of things, ordinarily represent, in their thinking, educational ideals of a generation past. This attitude finds expression in the making of curricula for schools and in legislating for plans of organizing and governing the schools. Men employed as principals or superintendents nearly always find such a condition confronting them, often defeating their plans for the advancement of the schools. The resulting conservatism is not without its advantages, however. It saves many a community from costly experiments with ill-advised plans. On the whole, as things now are, the advantage probably equals, at least, any retardation to normal growth which may result.

There is need of a definite plan for conducting educational experiments by a state. This should be done at state expense

under competent direction and in typical situations. The results, clearly pointing out difficulties and dangers as well as advantages, should be supplied to all school officials. In this way much more real progress would become possible and at a greatly reduced cost in the form of wasted time and materials and damaging reactionary movements.

Some such plan of experimentation is especially needed in the case of high schools. It could be utilized in predetermining desirable legislative enactments as well as in protecting boards and communities from wasteful experiments under impossible conditions. It would make possible a really scientific progress rather than the cumbersome and blundering way in which we now proceed. It would give assurance and definiteness where now there is doubt and indefiniteness.

There is needed also, for the assured and steady progress of our high schools, a maintenance plan that shall be sufficiently flexible and capable of expansion to meet local needs. This can hardly be accomplished under our present local scheme of maintenance still prevalent in many states. The general administrative unit of control for high schools should be sufficiently large to admit of such ready adjustment in the distribution of attendance and the expenditures entailed as to prevent the present frequent occurrence of overcrowding and consequent inadequate provisions.

The county unit, with the possibility in some instances of either union or division of counties, would seem best to serve this purpose. This would mean a county board for general administrative purposes, with local sub-district directors or commissioners to look after the immediate local interests of each school. The county board would see to it that the county was wisely divided into districts in a manner to provide high school privileges to all in the most equitable and satisfactory manner possible. It would also see to it that these schools provided fairly equivalent advantages.

To the end that such a scheme might be operated most

effectively, there should also be a state fund distributable to high school districts by counties in those sections where, for physical reasons, funds are found to be inadequate, in order to bring the schools up to such standards of efficiency as the state should require.

In order to make any such plan of administration and maintenance really effective, the state would need to establish standards of qualification of teachers and supervisors at the highest level of efficiency that could possibly be maintained. In this matter it seems hard for our schools to get from under those influences which, on the one hand, tend to make of them á means of support for local talent of doubtful if not totally inadequate character, or, on the other hand, to furnish positions to the graduates of institutions regardless of those standards of scholarship and professional fitness which the best welfare of the high schools demands. Any state which, in the next quarter of a century, really desires to make the most and the best of its high schools must see to it that teaching and supervising standards are of the best to be had. In this, as in some other features of education, California has set an excellent pace for other states.

The difficulties of adjusting the curricula of the high schools has already been noted. One of the most hopeful indications of the day is to be seen in the tendency to seek a revaluing, on a more scientifically reliable basis, of the materials of education. Little progress has been made as yet, for the work presents many difficult problems for experts in education to overcome. But as far as possible these obstacles will be met and new or more trustworthy values will be set. It matters not so much whether these shall differ from the traditional values which have been assigned and assumed as a working basis in the past. The great gain in such a revaluing will be the elimination of controversy from the processes of readjustment made necessary by the ever-broadening function of the high school.

An important feature of high school training, which even in

a decade has assumed vast proportions and significance, is that which pertains to the physical welfare of individual pupils. This has given us gymnasiums, swimming pools, and athletic fields, but not, as yet, any adequate provision for skilled direction of physical activities based on an understanding of individual needs. In this as in many other vital matters states move slowly. Attention is already given to the securing of well qualified athletic coaches in order to win in interscholastic competition; but for that knowledge of physical needs and possibilities which shall make strongly for success or failure in competition with the strain of service or with disease, very little thought seems to have been given as yet. A search through the catalogues of the large state universities shows considerable attention to the physical welfare of students. Only rarely do we find any indication that the training of teachers and directors for this work is seriously considered. Yet these are the institutions, presumably, where such training should be provided. This is a matter so fundamental and so far-reaching in its bearing upon individual and social efficiency that its longer neglect seems likely to become a retarding influence in the development of all other lines of public education.

Aside from the increase of mere numbers as a result of the addition of grades not heretofore included in the high school, the extension downward of the high school organization to include the intermediate schools bids fair to become one of the powerful incentives to growth. It is already evident that such a plan means that more pupils will go on and finish the high school than would under the old plan. It means, too, a growth in the scope and better ordering of high school work, thus materially enhancing the value of the training as a preparation both for life and for entrance upon college work. If we add to this the two years of junior college rank beyond the twelfth grade, we shall have a still more powerful factor for the growth of both high school and university.

The general social character of the high school is another

feature in its modern evolution which may readily become one of the strong motives to further progress. We are just coming to understand that the normal condition for school exercises as, indeed, for all great undertakings by groups of individuals in coöperation, is best attainable through the establishment of a healthful social organization of the school community. For centuries the school has been, for the most part, an exceedingly formal, atypical social group. As a result its formal exercises have permitted little relation or application to the ordinary needs and interests of life. From this condition the high school is rapidly freeing itself. The conditions of control are coming to be largely those of a democratic community, permitting a maximum of application of arts and principles taught to the supplying of needs and the promotion of the safety, comfort, and happiness of the high school community.

All this augurs well for the immediate future unfolding of the consequent larger field of usefulness of the school. And this is as it should be. But this does not mean that the disciplines of the school are to give place to a happy-go-lucky scheme of "pleasing experiences." On the contrary, it means that drills and formal studies will be attacked with greater avidity because of a felt need or real interest in the results to be attained. All experience thus far goes to prove that much time is lost over mere formal exercises, aimless except for the training they supposedly give to muscle or brain. Always we are searching for "motives" by which our school exercises are to carry over the hard places. The basis for these motives is present in the community interests represented in the high school. The organization of school activities about them is what is needed to accelerate the motion forward.

To this same end also is the movement toward making the high school, its library, laboratories, shops, gymnasium, and assembly hall serve a wider function than the needs of the pupils in regular attendance. The organization of the night school; of lecture courses for those out of school; the use of

laboratories in the interests of public health and comfort; the opening of gymnasium and swimming pool to a wider usefulness — all bring the school nearer to the actual interests of the larger social group. The pupils catch the spirit and significance of it all in this way, and the lessons they are assigned take on a new and deeper significance. Of no small moment is this movement as a means of accelerating the normal growth of the modern cosmopolitan high school. Its major function is to train for participation in the everyday affairs of men and women, but to participate with a more enlightened vision, a higher skill, and a fuller understanding of the significance of our institutions as related to human well-being.

As we now conceive of the high school with its breadth of possibilities, it must be apparent that to preserve its normal growth is to mean far more in its future organization than has been realized in the past. For all these added activities are to be provided for in the way of competent instructors and suitable equipment. Still more important, however, is the consideration of the advisement and guidance which must be exercised if there are not to be multitudes of mistakes in choosing courses and curricula among so many and varied opportunities. But this is only a counterpart of life; and where can such direction be better rendered than in a well-ordered high school?

This selecting and directing will mean the development of a new class of experts in the field of secondary education. It will doubtless also mean some added expense; but the prospect which it holds out as a means of saving years of time and many talented lives for the better service of the social group and for greater individual happiness will readily counterbalance this. As things now appear it would seem that in this problem of *guidance in preparation* is to lie the crucial test in working out the secondary readjustments with which the varied interests involved are now busy.

PART II — GENERAL MANAGEMENT

CHAPTER V

ORGANIZATION OF THE SCHOOL

The school is an institution established by society for a very specific and vital purpose. It was taken over from religious control in order that it might be free and universal as the great conservator of democratic institutions. In taking it over, however, the form of its organization came with it, and has long persisted in many of its original features. Today we are rapidly coming to realize the inadequacy of this organization in deriving from the school the full measure of service which society expects it to render. We are no longer agreed, at least in practice, as to the boundary lines of high school service in education. There is talk of the junior and senior high school. Yes, and there are whole city systems organized in that way. These begin the high school work with the seventh grade. In some cases the high school of senior grade, or as a junior college, carries the work two years beyond what we have heretofore called the four years of the high school.

It is difficult, therefore, to write about high school organization without explaining just which of these schemes of fixing the lower and upper limits of high school work we have in mind. For the smaller high schools it is probable that for a long time, if not indefinitely, it will be found necessary to organize all grades together, no matter where the limits as to the secondary stage of instruction may be fixed. In city systems, however, the case is different. Present knowledge of conditions and tendencies seems to indicate that it will be better to organize the junior and senior high schools in separate buildings, as has

already been done by such cities as Los Angeles, California, Norwalk, Connecticut, and Grand Rapids, Michigan, under the names of intermediate schools or junior high schools, and high schools.

The present element of doubt as to the real success of the senior high school as a school of junior college rank seems to turn on this proposition of segregation. If the environment of the school is to be so emphatically adolescent, as would be the case even with the retention of the present lower limit as commonly organized, it is believed that this distinct "downward pull" on the standards of teaching would hopelessly impair the two years of college work. The cutting off of the junior high school would distinctly lessen this apparent cause of weakness, although even then there would be lacking the strong "upward pull" of the higher college grades including both undergraduate and graduate work. It is believed, however, that with the employment of teachers holding at least a master's degree, with a liberal number of Doctors of Philosophy among the corps, as in the case of Los Angeles, this apparent weakness would practically disappear. For instance, if the city of Chicago, which has inaugurated the junior college rank of work without reaching down so as to include the seventh and eighth grades, would centralize this work in one or two schools where no pupils below the eleventh grade were admitted, and with teachers of the standards indicated above, the chances for the success of the new line of work would be greatly enhanced.

But this phase of our discussion must now be deferred. It will be more fully discussed in a later chapter. Meanwhile the principles involved in other features of high school organization will apply equally well in either case. First of all is to be considered the organization of the instructional staff, including principal and teachers, and their relation to the larger educational organization of which the high school is only a part. With the exception of those cases where the high

school is under a separate board, as in the case of township, union district, and county high schools, the high school principal and teachers are under the general supervision of the district. They are then chosen, normally, by the superintendent and appointed, on his recommendation, by the board. The high school organization thus becomes a part of this larger organization in accordance with the law which creates it, and is bound to work in and with this larger unit.

The peculiar nature of the high school work is, however, universally recognized, and a corresponding freedom of organization conceded both by the superintendent and the board. All that is required in this outside relationship is such coöperation as is necessary to harmonize and unify the entire course of instruction as well as the general school activities of the community.

In the case of the separate high school organizations mentioned above, the relationship is really but little changed. Where men of a coöperative spirit are at the head of both the elementary system and the high schools, matters requiring coöperation move forward in practically the same way.

Within the high school organization itself, in both social and instructional work, the principal stands at the head of the school. He it is who is ultimately held responsible for the success or failure of the work. He has authority, under the laws and ordinances of the board, to direct the conduct of the school, to arrange the daily program of exercises, to oversee the instructional work, to guide pupils in selecting curricula, and to determine what social features of the life of the school shall have recognition. It is his duty to adjust matters of a special nature relating to the assignment of work to teachers and also of the work and recitation schedules of pupils; to meet and satisfy patrons seeking special consideration for their children or registering complaints; to see that the records of the school are properly kept; to meet and provide for the proper care of the interests of visitors; to oversee all arrange-

ments for special programs or occasions connected with the life of the school; to render a report to the board directly or through the superintendent, as the character of the general organization may indicate.

By far the most important function of the principal should be that of supervisor of the work of instruction. Upon him should devolve the careful coaching of new and inexperienced teachers. He should be familiar with the criteria by which the work of each department in his school is to be judged as to its effectiveness. The principal should have time to visit the classrooms often enough to evaluate the work of each teacher; to catch any indication of weakness or tendency toward failure in time to throw his influence and help into the situation in such a way as to prevent a serious break or failure; to make suggestions as to materials; to ascertain needs as to textbooks; to study the special cases among the pupils with which he is called upon to deal; and especially to make his interest and sympathy felt as a stimulus to the teacher's work.

In order to manage his school successfully, he will need to coöperate with and seek the coöperation of not only those officially above him, and the teachers working with him, but also of the patrons and all public-minded citizens. Whatever else he may desire to do, he will endeavor to make sure of the confidence and hearty coöperation of the teachers who are to work with him in carrying out the aims and purposes of the school. This latter is no small task. To do so he must know how to command discreetly; to say no in an acceptable way; to criticize without wounding the spirit; to give himself freely to the tasks of leadership no matter how heavy or irksome they may, at times, become.

Upon him will undoubtedly fall the burden of selecting those who are to be added to the teaching force from time to time. This will be one of the very strongest tests of his organizing ability, for upon his success or failure in the selection of those

who are to be his co-workers will very largely turn the issues of the entire organization. He must secure those persons for teachers who, in addition to unquestioned scholarship and physical health, possess force of character, tact, agreeable manners, loyalty, adaptability, and whose character and qualities will fit into the general community environment and at the same time be congenial to those who make up the rest of the teaching group.

After their recommendation and appointment the teachers will turn to the principal for their respective assignments of work and authority. If the school is a large one, there will need to be some gradation in authority. The principal will need the coöperation of some leader in each of the larger departments or related groups of the school. These will be department heads, or members of his advisory cabinet. They may or may not have the same number of teaching periods. This is a matter for local adjustment and may involve, also, the question of salary. Other things being equal, it would seem to be an advantage in any organization of workers to have a number of opportunities for promotion in responsibility as well as advancement in salary.

In assigning the work of teachers the following considerations should be observed: (1) For what is the teacher best prepared (*a*) as to subject, and (*b*) as to grade of work to be undertaken? (2) With due regard to other limitations, how can the work be assigned so as to relieve the teacher as much as possible from a deadening monotony? (3) Are the personal qualities of the teacher of such a character as to be in any way prejudicial to her work with certain classes? (4) To what in the life of the community does this work most directly relate itself, and what will be the relative difficulty of obtaining illustrative and collateral materials for its effective presentation?

The principal should also keep in mind such duties of a more general character as may naturally or of necessity devolve upon each teacher. In other words, in the division of the work

among the teaching force, his aim should be to treat each one equitably as far as it lies within his power to do so. The teachers, on their part, in entering upon their work should fully appreciate the fact that they are becoming part of a community which is to work coöperatively for the attainment of a purpose chiefly fixed and determined by the larger social group by whom the school has been established. *In this respect it is "theirs not to reason why." It is an inevitable part of the life which they have entered upon that they shall share willingly and earnestly those many little services that become necessary in any social group where people are called to live a considerable part of their lives together.*

Then there are the purely professional interests of teachers and principal to be considered. The organization will not overlook these. What is each one to do over and above the routine work of the school to keep abreast of educational movement? What, to this end, is to be read? What educational meetings attended? How is each one to find a way for participation in all the means established for his professional improvement? Here again it devolves upon the principal to display leadership with discrimination.

Next to be considered in the organization of the school are the pupils. At first thought this seems a simple matter in the high school. But there are numerous important details of organization here which will require the coöperation of the entire teaching force to adjust. The great art of the principal at this stage in the proceedings will be in successfully enlisting each teacher in some feature of the work to which he seems best adapted.

First of all will arise the question of the preparedness of those entering the high school for the first time. There will need to be a careful checking in order to determine fitness to proceed. Most of the pupils will doubtless come with certificates of work completed in the elementary grades. Some will be without any such passport, and some plan of testing will need to

be used, lest there be those who undertake what they are unprepared to carry through.

Then there will be the choosing of a curriculum by each individual under advisement with principal or teacher, and frequently with one or both parents in earnest consultation. Here we come upon the most vital and at the same time the most difficult task in the organization of the year's work. It is in this process that there is needed a real sense of values with true discernment as to the pupil's possibilities. Without any annotated record from the grades below to indicate tendencies and special capabilities and weaknesses, there is little to be done except to question, in a very general way, each individual pupil. But much attention should be given during the first year to a fair measurement of the pupil's powers and inclinations. There is a real value in the idea of giving courses during the first year which are best adapted to this selective process — "vocationally selective courses," they have been called.

But let it never be assumed, when a pupil's major interest in the activities of life has seemingly emerged, that all his capabilities will lie in the direction of its successful pursuit. If the interest is a real and vital one, he will attain it in spite of the obstacles. On the other hand, if a mere adolescent whim has been the basis of selection the chances are that the very fact of such a selection may become the pupil's worst handicap when the real awakening comes. There is more than a poet's fancy in the words,

> "A boy's will is the wind's will,
> And the thoughts of youth are long, long thoughts."

There is a real art in classifying the pupils of a high school in the most effective way. This is assuming a school large enough to require two or more sections or groups for each high school grade. Shall they be grouped according to intellectual differences as they appear in previous records? Is it desirable

to have all the strong ones in a class by themselves and thus segregate the weak ones into a more slowly moving group? This sounds well at first hearing, but there are other considerations. In the first place, is such a situation most desirable for either group? "We need to get our bright pupils as far on the way as possible," says some one, "in order that society may have the benefit of their greater achievement." "We can do so much better by the slow ones if they are in a class by themselves," insists another advocate of such a scheme. Possibly this is the easy solution for the teacher who seeks the line of least resistance. But let us consider. The weak and the strong are to live side by side in society. Is there a chance here for the understanding teacher to prepare the way for a more tolerable existence out of school? How about moral issues — the altruistic spirit, which is the only real social bond with a guaranty upon it? Is it necessary to hold back the strong who work side by side with the weak? May they not make up in a fuller and wider survey of the subject in hand? The chief obstacle to this will be in artificial standards of ranking for special honors, etc. Such obstacles disappear if each one is estimated as to progress on an individual or absolute basis instead of on a superficial comparative basis. On the other hand, the broader and fuller treatment at a more deliberate pace will give a much sounder training to the intellectually quick. Those who are slower will also have an added stimulus to effort.

There is another and very practical reason, however, why there should be no such classification on the basis of general ability, especially in the modern composite high school. The pupil who has to make up his daily program of work partly from the academic subjects which all may take in common, and partly from the differentiated group of vocational lines representing his background of interest, will find the problem of conflicts to deal with. A single case of practical treatment of this difficulty will indicate the significance of the point. A

certain city high school is registering for the second semester's work. In a room representative of each department are a number of pegs representing the classes to be organized in the subject of that department. Each peg will hold just a certain number of cards representing assignments to the groups or sections which the pegs represent, and which also stand for certain respective hours on the daily program. Each pupil makes out his schedule, putting his card on one of the pegs not already filled, but standing for one of his "open" hours. If, after the pegs are nearly filled, there remain special cases of conflict, these are adjusted, if possible, by making shifts with other subjects. In a very few cases, however, subjects will have to be exchanged; or, if there are several adjustments for the same subjects, an additional section may be provided. It will readily be seen that in such a case the distribution among classes must be very democratic indeed, and that little chance will remain either for segregation on a basis of previous attainment, or, indeed, according to any preference for particular teachers of the same subject.

In the matter of classification of pupils, or at least in the amount of work assigned, there will frequently be other interests than just the studies to be pursued at school which will demand consideration. Among these are such matters as studying music outside of school; having especially onerous home duties; impaired health or vitality; defective eyesight or hearing. These conditions, wherever they honestly exist, call for careful and sympathetic consideration in connection with assignments of work and the resulting classification of the individual pupils concerned. Such cases call for treatment according to conditions which cannot always be known beforehand, and yet which demand immediate and effective solution.

Finally, this whole matter of organization is to be handled with a view to developing an atmosphere and spirit favorable not only to the accomplishment of the more specific aims and

purposes of the school but also calculated to bring out and emphasize the best things in the lives and characters of the pupils as ordinary human beings, who have not only to be educated in the more formal sense but who also have their lives to live as members of the social groups in which they are destined to serve and be served. To the accomplishment or failure to attain this larger and more general result, all the work of the school community both formally educative and informally social must inevitably contribute. And yet by the presence of such an atmosphere or spirit, potentially good or bad, is the school to be known and its effectiveness most surely judged.

CHAPTER VI

THE EMPLOYMENT OF TEACHERS

Closely related to the problems connected with the organization of the school is that of the employment of teachers. The teacher is the real dynamic force of the school when it comes to the work of instruction. The teachers working together under the wise leadership of a principal determine the life and spirit of the high school as well as the measure of its achievement. The great problem of the school and of school authorities, indeed of society in general, is to be able to secure for the schools a sufficient number of physically, mentally, and morally capable men and women for the instruction of youth.

Legally considered, the authority to employ teachers is almost universally placed in the hands of boards of education having control of local schools. These boards are the representatives of society through whom schools are organized, operated, and maintained. They are the guardians of the public interests involved, both in the proper education of youth and in the expenditure of public funds for maintenance. Consequently these boards must necessarily have the final word as to the contracts to be entered into with teachers. The general practice, however, is to authorize the principal or superintendent of the local school to select and nominate suitable teachers for the various departments of work, subject to approval and formal appointment by the board. In the smaller public school centers where all social organization is less complete and where the affairs of the particular group are traditionally a matter of general public sentiment, such vested privileges are yielded grudgingly by the people and often get no farther

than the board of education. In such cases the principal or superintendent has little or no authority above that of the individual teacher. It not infrequently happens under these conditions that the schools are practically so many individual groups, each administered by the teacher under the more or less definite direction of the board.

As we ascend to larger centers, however, where the people are compelled to resort to more definite division of function in the social group, we find the organization of the schools more complete. In such centers the superintendent, — and often the high school principal, — comes to have clearly defined rights and privileges. Much of the authority vested in boards is delegated to the superintendent under the rules of the board governing the schools. He, in turn, may be permitted to delegate authority to the principal of the high school.

As the work of the secondary phase of education is somewhat strongly differentiated from that of elementary schools, requiring radically different treatment in many matters of organization and discipline, it happens that, as a usual thing, the high school principal comes to have a unique relationship to the organization as compared, for instance, with the principal of one of the district elementary schools of a group. This same difference is often recognized when it becomes necessary, as in large cities, to divide part of the work of the superintendent of schools among assistant supervisors. The plan in such cases frequently is to distribute the work by horizontal rather than vertical lines of division. In such an instance there would come to be a supervisor of high schools who would be the means of direct contact with high school principals in all matters of privilege and authority, as well as in the administration of educational policy. It is needless to say in this connection that few educational centers under local boards are large enough, or have a sufficient number of high schools, to employ an exclusive supervisor of high schools. In some cases, as noted in

Chapter II, states have undertaken some such special supervision under state high school boards or state boards of education.

The plan of organization of the work for purposes of instruction also varies as we pass from smaller to larger groups. The frequent absence of any clearly recognized expert authority in the case of smaller educational centers often leads to curious complications. Under our present system, or rather lack of system, of training teachers, it most frequently happens that teachers are best prepared to teach along certain lines, while they know little or nothing of certain other subjects taught in high schools. With no one to plan the selection of a group of teachers so as to provide a competent instructor for each major subject, with a proper distribution of minor subjects, it frequently occurs that two or more teachers with practically the same special training will be employed, thus leaving some one or more to be assigned to the teaching of subjects for which no very complete preparation has been made.

The ideal plan, where a principal or superintendent is to be appointed, would be to choose that official first and then proceed to the election of teachers on his nomination, or on advisement where teachers are to be reappointed. In cases where the school is large enough, this should also include advisement by the superintendent with the principal, who in turn would need to advise with heads of departments. In this respect there is frequently a lack of appreciation on the part of high school boards of the vital nature of this matter of selecting teachers properly qualified for the particular departments in which they are to teach. It would be better for the schools, at least in smaller cities and towns, if the laws of states in defining powers and duties of boards, should call definite attention to their obligation to utilize the expert judgment of the principal or superintendent in the selection of teachers.

There are those who would hold that the law should give definite autonomy to the office of principal or superintendent

in such manner as to make definite legal provision for such function on the part of the chief educational expert of the school. Since, however, this expert is to be chosen and his compensation fixed by the board, such legal definition of the powers of a subordinate other than those made by the boards themselves would seem superfluous. The more fitting way would be to define the duties of boards in this respect.

One of the most difficult problems connected with the administration of a high school is this selecting and nominating of suitable teachers when vacancies occur. The matter calls for great care and good judgment. Aside from the difficulty in deciding just what qualities of person and preparation shall determine the choice, there are several other things which enter into the consideration. In the first place the question of salary is to be met. Probably the majority of school boards are either unwilling or unable to pay the price which a well-trained and successful teacher should command; yet these are both important considerations. General testimonials in the hands of candidates must usually be taken with a grain of allowance even by one who knows how to read them in a way to get the force of omissions as well as of the good things said concerning the bearer. Nothing short of a careful investigation by the board or by the superintendent ought to be taken as a basis for employment. Yet in the majority of cases little time is usually given for such investigation.

When it comes to the consideration of graduates of institutions, it is safe to conclude that these institutions may be consulted through committees or secretaries appointed to look after all calls for teachers and to give to school authorities a full statement of the qualifications of any candidate under consideration, so far as these are known to the committees. Where such is the case, it is reasonable to suppose that a safer estimate of the teaching ability of a candidate may be had from such committees or secretaries than from almost any other source.

The teachers' agency is another well-known means now available for help in finding suitable candidates to fill vacancies in the teaching ranks of a school. The number of these agencies has greatly increased within the past few years. Like most business enterprises, this agency work has been undertaken by all kinds of people. Until quite recently nothing has been said as to the desirability of placing any special legal restriction upon the business. As a result some very unscrupulous practices have grown up, so that one is hardly safe in consulting an agency unless it is vouched for by reliable parties who know its standing.

There is no doubt but that a good agency may prove very helpful to school authorities in finding suitable candidates. The usual plan adopted by agencies, however, of sending in a long list of applications for a single vacancy is deplorable from every point of view. It is hardly fair to the candidates, it creates a false impression as to the supply of available teachers, and as a natural result arouses in the minds of school authorities and candidates a feeling of distrust toward all agencies. There are a few good agencies that try to avoid such practices. These may usually be consulted with safety and with some prospect of getting what is wanted, if any candidate is available.

It is the common practice in our present scheme of high school administration for the stronger schools to seek almost exclusively teachers whose training has been supplemented by a year or more of successful experience. This throws most of the beginners who are fresh from college or normal school into the smaller schools, where the work is often excessively heavy and the supervision comparatively weak. As a result many failures occur and not infrequently upon the part of those who are capable, under proper conditions, of becoming strong teachers. A more general cadet system in our stronger high schools, where there is usually competent supervision, would do much to lessen this evident evil.

This raises the whole question of the proper training for

secondary teachers. We have found in our discussion of the high school as a legal entity[1] that many of the states make no definite provision for the special certification of high school teachers. In a great majority of the states, while the laws require certification of competency to teach, yet the spirit of the law is ignored in the case of high school teachers. It frequently happens, therefore, that the legal qualifications provided for by certification bear little or no relationship to the real qualifications sought in teachers of high school grades. This condition of things doubtless grows out of the fact that most states in their legal enactments fail to distinguish the high school from other departments of the common school system.

As a result of this condition, a number of educational organizations have gone on record as undertaking to define the qualifications to be required of those who are employed to teach in secondary schools.[2] The issuing of certificates by state departments has been used to some extent as a remedy; but it easily becomes apparent that mere examination tests cannot be made an equivalent for a proper system of training. There will always be many who will pass fair examinations by cramming for them, while in reality they possess little of that logically ordered mental ability and power of presentation so essential in the teacher. All of the states, through the establishment of normal schools or through educational departments in universities, or both, have recognized the necessity for the professional training of teachers. Many are coming to realize the need of demanding of teachers the highest possible qualifications as to scholarship and professional knowledge and skill obtainable within the salary limitations which boards are compelled to adopt. In other words, this is a problem in economics as well as a matter of ideals. Many times boards are compelled

[1] Cf. Chapter II.

[2] See rules for the uniform accrediting of High Schools by the North Central Association of Colleges and Secondary Schools. Also *Report of the Committee of Seventeen, N. E. A. Proceedings*, 1907, pp. 523–668.

to take second or third choice in selecting teachers and principals simply because the men or women of the standard they desire cannot be secured with the highest salaries they are able to pay.

If the schools are to command the services of teachers trained as suggested above, there must be considerable change in at least two important respects. There must be a fairer compensation for the service rendered and the tenure of the teacher must be made more certain. On the theory that service should receive compensation that is commensurate with what it adds to the material wealth and to the security of the people, the teacher is not yet receiving his share of the increase. As a result our better trained men and women are seeking other fields and the supply of trained teachers is becoming yearly more and more inadequate. This condition is aggravated by the uncertainty of remaining employed. There is apparently no good reason, setting aside tradition, why a teacher who has taken up the work as his chosen profession after thorough preparation, and who has shown his ability to instruct in an approved manner, should not be permanently employed rather than subjected to the uncertainties of annual reappointment.

On this matter of tenure the high school teacher is actually better off than any other group aside from principals and superintendents of schools. Statistician C. H. Verrill derives a number of interesting generalizations from the report of the N. E. A. Committee on Salaries, Tenure, and Pensions of Public School Teachers in the United States.[1] Among other things he is able to show that in 333 cities with populations of 8000 or over the average duration of service of all teachers was found to be $11\frac{1}{2}$ years. As only about $8\frac{1}{2}$ per cent of the teachers included were high school teachers, and as a much larger proportion of these are men than in the case of teachers in the elementary schools, we may reasonably conclude, in the absence

[1] See pp. 459–464 of that report.

of more specific data, that the average tenure for high school teachers would be slightly higher. While this is not so bad as in the case of the vast majority of elementary school teachers, yet it would seem to be altogether too low. If we are to insist upon the high standards of preparation which competent service on the part of the teacher demands, we should also seek to secure for him permanency of appointment on conditions similar to those commonly prevailing in college and university service.

The matter of tenure itself is, however, as Mr. Verrill points out (p. 459 of same report), largely dependent upon the matter of salaries. Teachers are not likely to seek permanency of appointment if this does not mean a compensation, after a reasonable term of service, that is commensurate with the demands of "appropriate standards of living." Nor can this problem as related to the high school teacher disentangle itself entirely from the corresponding problem for elementary teachers. The school public in the United States is not yet sufficiently discriminating in regard to differences in standards involved in the training required by these respective groups of teachers to deal fairly with the matter. As long as professional standards are too low for the elementary group, therefore, there is sure to be an adverse influence toward better salaries and longer tenure that will be felt by all groups, including high school teachers.

The inadequacy of salaries is too well known to need a detailed presentation here. The National Education Association has done a great service in collecting through its committee the materials set forth in the report referred to above. The fundamental question demanding solution before any very satisfactory readjustment of salaries can be reached involves the whole matter of the means employed in financing our system of public education. Here again the National Association has taken forethought in providing for the collection of much valuable information concerning taxation as

related to the problems of public education.[1] Such materials will doubtless be needed for further study in future attempts to get at the root of the whole matter. We are familiar with the various attempts which different states have made toward a more satisfactory and equitable means of maintaining our high schools. Is not this, after all, the fundamental thing next to which, and as its logical offset, comes the absolute requirement of a higher qualification standard for high school teachers? Back of this, and underlying the problem of betterment of the elementary school, there may be, and doubtless are, needs of readjustment of our entire general revenue scheme; but so far as the high schools are concerned the first thing is to determine who, of right, should maintain them.

There is, however, another phase of the salary question which demands consideration as a factor in administration: On what basis are we to determine salary promotions of high school teachers? In the first place, the movement by several states leading to the fixing by law of the teachers' minimum wage seems unfortunate, although it doubtless has given temporary relief in some cases. The local conditions must determine to some extent what interpretation is to be given to the phrase "appropriate standards of living"; and if so, then these same local conditions must help to determine the minimum pay. As has already been suggested, the standards of preparation demanded must enter into the problem of minimums. Then the ideals of the community with regard to the social standing and duties of the teacher, as well as the expectations of administrative officers in regard to the nature and amount of effort to be put forth by the teacher for self-improvement in a professional way, also have weight in this matter.

When once the base line of salaries has been established for a given high school or group of schools, what is to be the basis for increase in salary, and what the maximum limit? The

[1] See *Report of Committee of N. E. A.*, 1905, *on Taxation as Related to Public Education.*

latter point will be disposed of with the interpretation given to "appropriate standards of living," including, of course, the maintenance and education of a family, and also a reasonable provision for the future. The remaining considerations which may fairly be expected to bring an increase in salary are:

(1) Increased efficiency due to service. This will not extend over the entire period of a normal life of service, perhaps, although it will vary greatly with individuals, and its duration will depend on the next factor to be considered.

(2) Increased efficiency due to further study and investigation along the lines of professional work or along contributory lines. The possibilities for increased efficiency in this direction will depend chiefly on (*a*) native ability and (*b*) thoroughness of first preparation. It is evident that in this respect high school teachers would come under a class different from that of elementary teachers. Who is to say what is to be the upper limit to the value of the services of those who thus become great in their particular spheres? What puts a limit to the compensation for the genius of a great lawyer, a great physician, a great financier, or a great captain of industry? It is evident that when we speak of a maximum limit we are thinking of the teacher in a class by himself, as different from other men!

(3) There may arise the consideration of certain conditions of supply and demand, more or less variable, as a further factor in determining increase of salary. It would seem just that some leeway should always exist in the authoritative adjustment of teachers' salaries to permit the consideration of such economic contingency.

But what are we to say with regard to the sex factor? Should it be a real factor in the adjustment of high school salaries? This is a question involving some careful discrimination of judgment if it is to be treated with fairness and candor. In the first place, it is fair to say that the third point mentioned above as having to do with salary increase must, to a certain extent, have consideration here. The rapid increase in the

number of women graduating from our colleges and universities, taken in connection with the fact that the field for independent service by educated women is rather circumscribed, naturally produces an economic situation of relative oversupply. This, however, may be disposed of as only a temporary condition. The real answer to the question just raised lies deeper.

The question sums itself up as a matter of ultimate purpose on the part of the woman who teaches. If she has put into her preparation the same mental power and capability as the man, with no wavering as to ultimate purpose to vitiate this effort, and if she enters upon the work of teaching possessed of an ability the equivalent of the man's ability and with steadfastness of aim, how can there be any question of difference as to compensation except such a possible economic difference as suggested above? "But," says some one, "do you mean that every woman who teaches should take the vow of a celibate?" This does not follow. It is readily conceivable that any woman may enter upon the life of a teacher in the spirit described above without abridging her freedom to act in the light of future and unforeseen emergencies.

On the other hand, when women assume the rôle of teaching merely as a transition stage, as hundreds do, and with no strong purpose running back into the years of their preparation, then there are most decided grounds for difference as to the salaries they should command. Furthermore, as long as there may be any considerable number of this latter class, they will naturally tend to hold down the salaries of all women who teach, and, to a certain extent, of all teachers, male or female.

On this matter of tenure and salaries of teachers generally, probably no better plan has been suggested than the one which may readily be gleaned from the writings of E. P. Cubberley on this subject in his portion of the report on the Portland, Oregon, survey. The following points are gathered from reading Chapters IV and V of this report:

(1) Teachers should first be carefully selected from among the best candidates available from any source. The superintendent should be authorized to go out and select and nominate those qualified for the positions to be filled.

(2) These nominees should be appointed subject to annual reëlection for two or three years. In other words, they should be placed on probation.

(3) If this work during the probationary period has been sufficiently satisfactory they may then be elected for a period of five years, or, preferably, on an indefinite contract. During this indefinite contract they will be under the eye of the superintendent and his aids, subject to warning and possible dismissal in case of marked deterioration of work.

(4) During this period salaries should advance automatically up to a maximum limit.

(5) Beyond this there should be a second maximum limit toward which automatic advancement would be made as a result of some special study on leave of absence, or for travel abroad.

(6) A still further advancement should then become possible through promotion. In case of high school teachers this would mean promotion from the intermediate school to the high school, and, in the high school, promotion in rank.

It will be seen that by this plan the teacher is always under a spur to be at her best. There are two, or possibly three, critical points of judgment: (1) When first employed; (2) after special study or travel; (3) possibly for promotion in rank. For the intervening periods after probation there is steady, tranquil work, with assured tenure, and always a new goal ahead to be attained. Such conditions, as Dr. Cubberley points out, are really necessary in order to counteract human frailties which would otherwise cause teachers to neglect their own improvement and so deteriorate to a degree of absolute inefficiency.

The question also arises of the ratio of the number of teachers to the number of pupils. The few authorities who have spoken on this subject seem to agree generally on a ratio of one teacher to each thirty pupils. This is the ratio which prevails in the best European schools and is also the formal recommendation of the North Central Association of Colleges and Secondary Schools. Recent statistics on this point show the following conditions in a number of our large city high schools. The ratios given are based on the enrollment at the opening of the school year (1908) and the teachers counted are exclusive of teachers of business, music, drawing, manual training, and domestic science: Buffalo, 1:30; Cleveland (Central), 1:30; Detroit (Central), min. 1:25, max. 1:32, with an average of 28 or 29; Des Moines (West), 1:30; Indianapolis (Shortridge), 1:34; Kansas City (Central), 1:30; Milwaukee (East Division), 1:30; Minneapolis (Central), 1:32; New York City, DeWitt Clinton, 1:30 or 35, Morris, 1:30; St. Louis, 1:25; St. Paul (Central), 1:30; Washington, D. C. (Central), 1:27 or 28. In Chicago the rule until recently has been 1:28:35, but this has been amended since so as to read 1:30. Most of the cities above reported have no formal rule, but act upon the general ratio of about 1:30 in employing teachers. The question involved is a larger one than that of a flat ratio of one to thirty more or less. There are wide differences among different subjects in this respect. There are cases where a group of twelve is large enough for one teacher; while in other exercises forty or fifty are readily managed at one time. Take, for instance, a group doing laboratory work in science and a class in ancient history. While it is probably true that better results will be obtained even in the history with a small group than with a large one, yet it is evident that the more urgent need of the small group is in the laboratory work. The same principle applies to English where the laboratory method is employed as compared with the general class method. In the best organized high schools the employment of laboratory

assistants in science and of readers in English composition is found to be an effective means of managing classes otherwise too large.

It is probably safe to assume that the ratio should be less than thirty to one rather than more. When we consider, however, that the question of the number of recitations to each teacher must also be fairly met, it is evident that the whole problem is one of financial ability. It is generally agreed that five recitations per day averaging forty-five minutes in length are all that one teacher should undertake to do. Here again a mere arbitrary rule leads to inconsistencies. In a small school, where one teacher must prepare in two or three different subjects, five recitations means much more work in preparation than the same number in one subject, and especially, as sometimes happens, in one particular course of that subject. Then, too, such work as English composition often involves a large amount of labor in reading and marking themes and in consultation with pupils, which is usually in addition to preparation and recitation work. The question is largely one of relative fatigue on the part of the teacher, and if it is to be adjusted fairly, must be dealt with as such.

There are also involved in this question of employing teachers some important ethical considerations. Perhaps the most important of these is the obligation to fulfil a contract. On this matter many teachers seem to have failed to get right before entering upon the work of teaching. It has been altogether too common in the past for teachers to enter into contract with a board and later, when a more desirable position offered, to resign without even considering the rights of the board with whom they had previously contracted. This situation is no doubt partly due to the obduracy of boards in granting release where teachers receive, without solicitation, offers representing very material advantages over the first contract. On the other hand, the teacher is guilty of extreme offense when a contract is made simply as a safeguard and with

the full intention of using every means available to secure a better place just as if no contract existed.

There are no doubt cases in which boards should consider the welfare of the teacher in such matters, when an unusual opportunity for advancement is offered. But no teacher who refuses to recognize the solemn obligations of a contract can hope to maintain professional respectability.

Another point which concerns boards chiefly is the unceremonious dropping of a teacher at the end of a year's contract without any evident cause. It is true that legally the contract expires and the parties thereto are free to renew or not. But it is also true that the recognized interests of both school and teacher would imply that, where competent and satisfactory service had been rendered, there is a moral issue. The situation requires that the welfare of school and teacher be the fundamental consideration. In a sense there is a moral obligation here for both parties to the contract.

A third point is a matter of professional ethics among teachers. Such a case is involved when a teacher deliberately seeks appointment to a position held by another where no vacancy has been declared. This is illustrated by the case of a principal of a district high school who, without any notice or complaint, found his place filled by a former principal of the school. The board declared that the work of the outgoing principal had been eminently satisfactory, that there was no opposition to him in the district. Further developments revealed the fact that the former principal had sought the appointment which he obtained through influence of friends in the community. Such occurrences, though not common, are more frequent than is good for the cause of education or the upbuilding of a true professional spirit among teachers. In all such matters of contract and of professional courtesy and the recognition of the just rights of others, teachers and all school authorities will do well to consider carefully, before acting, just what principles are involved.

CHAPTER VII

THE GOVERNMENT OF THE HIGH SCHOOL

With such an institution in mind as has been defined in an earlier chapter, it will readily appear that the ordering of its government is no simple affair. In order to get the details of this particular problem clearly before us, let us run over them first in a somewhat formal manner.

There are several aspects to the government of a modern high school; among these are: (1) the legal aspect; (2) the internal government, including (*a*) functions, and (*b*) types; (3) the external government. The legal aspect includes direct provisions by the state, either constitutional or statutory, as affecting organization, maintenance, the character of instruction, and the qualifications of those who instruct. Provisions of constitutions are very meager. They include mandatory provisions (by implication) for the establishment by legislatures of state systems of public schools; in only a few cases the mention of high schools as a part of the state system; the forbidding (by implication) of sectarian teaching in the public schools or the use of public funds in support of sectarian schools; distinctions as to race with provision for separate schools in some instances.

In the matter of statutory provisions, however, much more in the form of specific regulations and requirements is to be found. The educational laws of a state generally provide for the organization of schools by creating state and county supervising offices, and by providing for boards of directors, commissioners, or boards of education. The laws provide also for the maintenance of schools through local taxation, — under certain limitations, — which is largely in the hands of school

boards. They also provide for the distribution of funds from the state and from the permanent school funds. In some instances legislatures have placed in the hands of a State Board of Education or of the State Department authority to determine the courses of instruction to be offered in the public schools. Ordinarily, however, this is left to local boards to determine.

With local boards also is left large discretionary authority. This may be executive, in putting into effect general statutory provisions in such matters as levying taxes; building school houses; employing teachers and other service; providing for equipment, including the adoption of textbooks. The authority of boards may also be of a legislative character, as in making rules and regulations for the government of the school. Thus it will appear that the legal aspects of high school government are very important as determining all fundamental features of organization and administration.

There is still another legal aspect, but this has to do with the external government of the school and will be considered a little further on. Aside from the state control through boards or through state departments there is also established, by legal enactment, a certain control in some states through the office of county superintendent. The establishment also of higher institutions of learning by states usually carries the implication that these institutions are to determine the conditions and terms of admission. This establishes a certain control by such institutions of the forms of instruction to be offered by high schools.

By far the most important consideration of the problem of high school government in this connection relates to the internal management of the school. As suggested above, this may be considered under functions and types. The functions of high school government are determined chiefly by the aims of the high school. Here we have a community established for certain definite purposes. The needs of the state, the interests

of society in general, and of the individual in particular, are to be conserved. The problem is to transfer to the pupil those judgments, and that skill in various arts, which are the legacy of race-experience worthy of preservation and extension to the lives of future generations. The purpose and desire of those into whose hands the government of the school has been placed is to accomplish this aim, to satisfy the problem, in the most effective and economical way consistent with the normal growth, physically, mentally, and morally, of those to be educated.

To these ends, then, the internal government of the school should shape itself. In a general way government will apply to the securing of reasonable economy of time and resources; time of teachers and pupils, of the school as a community; resources provided by individual pupils and by the school authorities for the purpose of forwarding the work in hand. To these ends there will be required the necessary decorum in order to prevent interruptions of study, of experimentation, or of any of the manifold exercises of the school. Orderly movements will tend to conserve the same end and also to save time.

From the standpoint of the needs of individual students, systems of discipline will be required. First of all habits of order, promptness, courtesy, and morality are to be inculcated. This will involve the elimination of some bad habits. It will require careful study of particular cases and also of the effect on individuals of the general social conditions of the school. It will make necessary the enlistment of all possible coöperative forces among teachers and students in order to meet all conditions.

Self-reliance and coöperation among the pupils will be another aim of discipline. To this end all the exercises of the school may be made to contribute. The method of the class-room, the social hour, the special program, the varied enterprises of the shop, the printing department, the clubs, the

school athletics, the literary organizations, the musical groups — all will contribute something, if rightly directed, toward the development of these high qualities in the characters of the boys and girls. And out of all these things — the life of the school as a whole — will come a fine community spirit and the fostering of democratic ideals.

The proper discipline of the school will always be deeply affected by wise selections of curricula by the pupils. This will require constant watchfulness by teachers and principal and also the encouragement of self-study by the pupils. Probably the safe plan in a large school will be to have the advisory work looked after by teachers selected for their peculiar fitness to do this work in an effective manner. The careful organization of the program of studies so as to take care of necessary sequences, of the special social needs, and of prerequisites, in a logical and balanced way, will greatly assist in avoiding unfortunate selections of curricula.

A third function of internal government, more or less dependent upon and a resultant of those already discussed, will be to maintain a high level of efficiency of instruction. This will be accomplished first of all through hearty coöperation of the faculty, the principal, and all supervisors connected with the work of the high school. This is assuming that competent teachers and supervisors have been provided, and that their sole aim is to produce the best possible results, individually and collectively, which the character of the pupils and the nature of the equipment will permit. It should not mean the elimination of individuality on the part of any, but rather the organization, to a common end, of the best individual qualities and abilities. To this end individual differences of opinion as to policy should be kept out of sight when once a course of action has been determined upon.

Continuous study of educational problems by those in authority is necessary in order to maintain a high level of instructional efficiency. Individual study along these lines

should be supplemented by group study on the part of teachers and principal, in order to develop that unity of understanding and purpose so necessary to successful coöperation. Here is presented one of the difficult problems for the principal, a problem which deserves some special treatment later on. It is easy to talk about organizing a group of teachers for general improvement; but it is far from being a simple task to find good common ground for study with teachers from all the various departments of high school instruction. Yet this is an essential feature of the training in service which should go along with the year's work in high school teaching.

Doubtless the most powerful means in the internal government of the school for keeping the quality of instruction at a high level is that of wise, thoroughgoing supervision. This is an art which is not easily applied in the case of high schools. The scope of the work represented in the studies and exercises of a high school program makes it a difficult problem for a principal to supervise effectively all departments of the school. There are important general conditions, however, which may readily come under such supervision. The attitude of pupils to teacher, the management of the recitation, the uses made of equipment, definiteness of aim and well-directed effort at attainment — all these things and more may come under the observation and judgment of the one supervising. In a large school the division into departments or related groups with some one teacher as the head or leader of the group will facilitate supervision.

The difficulty frequently arises of failing to get a sympathetic response from the teacher when suggestions are to be made. This difficulty will usually disappear when the supervisor shows clearly that he is endeavoring to aid in the attainment of the real purpose of instruction rather than merely to expose the particular faults of teachers.

The purposes of supervision of class work in high schools may be enumerated as: (1) a basis for coaching new teachers

in management; (2) to stimulate the work of all teachers and pupils; (3) to observe points of difficulty in general deportment or other deficiencies on the part of pupils; (4) to secure coöperative, balanced work in the various courses and departments; (5) to be able to act intelligently in recommending needed changes in the program of studies; (6) to keep informed as to needs in equipment, textbooks, etc.; (7) to be able to aid discreetly in the advisement of pupils in selecting curricula. These constitute the leading functions of supervision as a means of maintaining a high level of work in instruction. It will be seen at once that these duties, if accomplished successfully, will demand a high degree of tact, skill, and sympathy, to say nothing of the broad scholarship and expert professional knowledge required. A very considerable part of the weakness and failure in high school instruction is undoubtedly due to the lack of the necessary ability, or courage, or both, on the part of principals for the doing of these things in a helpful, constructive, and sincere manner.

There are too many cases where inexperienced teachers are assigned classes and left to themselves to grope their way along without a word of sympathetic advice or appreciation from the principal. If they "get along" with their pupils, well and good; if there is trouble or disorder the teacher is a failure and must be dropped at the first opportunity. If the work of the school drags tiresomely, it is probably because there is no enthusiastic leader at the head to stimulate and "key up" the work of the different departments. If pupils are sent without warning or previous knowledge to the principal in order that he may deal with some form of delinquency, the chances are two to one that he will fumble the case and make a bad matter worse. The little adjustments among departments, courses, or sections necessary to the smooth running of the work call for some first-hand knowledge of the situation which supervision alone can furnish. So, also, in providing for changes in the program of studies, or for added equipment or change of texts, in order

to act intelligently the principal must know something of the work that will be affected, for better or for worse, by such changes. Certainly not the least important point is the relation which the principal's judgment must always bear to the final decision of a pupil in choosing the special form of differentiation of his work, which may mean his success or failure in life. There is no better source of the wisdom necessary in such cases than frequent observation of the attitude of pupils toward the particular lines of work they are carrying.

Surely this field of intelligent supervision is one of the greatest needs of our schools. The demands require special preparation for the work. Those planning to undertake such administrative duties in our high schools should not fail to make a special and thorough study of the principles involved.

The second important consideration under the internal government of the high school is that of types of government which may be employed. These may be classified as follows: (1) Autocratic — a "one man" government in which the principal "reigns supreme." This type is now decidedly obsolescent. We find it appearing occasionally here and there; but it nearly always brings a reaction. (2) Democratic as far as the faculty is concerned, but with the faculty only participating in control. This is a distinct advance in form. The principal advises freely with the teaching corps, and is assisted in various functions of school government by committees chosen from the faculty. (3) A third type adds to the second a student advisory board, thus giving the students a hearing on all important matters pertaining to their welfare or conduct. (4) "Student government" organizations, after the manner of "Boyville." (5) Democratic as a community, students and faculty participating, within legal limitations, in all the activities of the community life of the school.

The school is a social unit in that it has an organic existence with a specific aim and purpose. It is a small community within itself. The wide variety of activities set up in a modern

composite high school as an instrument of education taken together with the ordinary life interests, as associated human beings, which the individuals of this social unit share in common with all mankind, readily give to it the qualities of community life. The organization and government of this community may therefore very properly conform to those of other communities. To be sure the organization will take its character chiefly from the purposes to be conserved; but that is true of any community.

The first question which arises, not from the true nature of the case but because of certain traditional practice, is whether this community, in its government, is to be autocratic or democratic. There is no avoiding the fact that many such school communities still exist as autocracies, but there is a rapidly growing sentiment in favor of democracy in all these social units. The traditional conception of the teacher as *in loco parentis* does fairly well as applied to the one-room school of earlier days or of rural districts today. Here children of all ages, like a family, were assembled. Then, too, the phrase was misleading as to the facts; for the teacher's absolute sway necessarily lacked some very fundamental qualities of parental interest and control. The high school, however, takes the school group out of the class *familia* and transfers it to the class *communitas;* for only those of the adolescent period or older compose this group. Hence the phrase *in loco parentis*, even if there arose no doubt as to *which* of the teachers to apply it, is no longer applicable to schools of this newer type.

Then let us consider the high school as normally a democratic community in a democratic state, existing as to its organization and administration of government under laws made by the state, and with a set of officials provided for by these laws. The state is directly represented in the community by the school board. This body is created in order to set up the school community, to further define its aims and purposes, to provide for its maintenance as a form of government, and

to appoint executive officers in the persons of supervisors and teachers. This having been done, the school community proceeds with its affairs within the laws of the state and the ordinances of the board. In a similar manner any community proceeds as to its organization and government. It is, in the nature of the case, essentially democratic. The chief obstacle in the way of realizing this fact is a traditional conception of the school, quite apart from and foreign to the character of the high school, which has been passed down from father to son for many generations.

Teachers and pupils alike are members of this democratic community. But as in all communities so here there are public officials and common citizens. The officials, composed of the teaching and supervisory staff, are assigned certain special functions and authority by the state and the board of education. They are bound to see that the aims and purposes of a school are secured. But over and above these services, they are to live their lives and enact their parts in this community very much as other members of it do. The pupils, as common citizens, are to conduct their affairs in harmony with the highest welfare of the community life and its aims and purposes. But here again, entirely in excess of the specific duties entailed by the setting up of the school, these individuals also must *live their lives and perform their parts in the community*. This is what is meant by saying, "The school is life."

Let it not be imagined, as some have persisted in doing, that this authorized aim and purpose of the school as projected by society can be realized through the processes of a form of education divorced and distinct from the real life of the associated individuals in the school community. The bare statement of such a theory is sufficient demonstration of its absurdity. Yet in the organization and management of the school of the past such a state of disembodiment of the life of the school seems to have been largely taken for granted.

It is agreed that the pupils are immature, and incapable of taking individual shares in the responsibilities of this community life. But the state has placed mature leaders and guides in their midst. Moreover, are they not as mature in judgment, on the whole, as the average social group in any community? And are not their leaders and guides, the officials of the school community, more carefully selected and better prepared than the average community officials? And if these boys and girls are to learn to live as citizens in a law-abiding, democratic community and state, is it not high time they were getting the habit?

As in any community, all must coöperate if the aims of the community life are to be attained. But in order to have complete coöperation there must be a sharing of community responsibilities. A few illustrations from real school life, without troubling to name the schools alluded to, will illustrate what is meant by this community form of government:

(1) A stranger calls at a high school in a city in order to observe some features of equipment. There happens to be an intermission of school work, and many of the pupils are out of doors. As the stranger approaches, one of the students, a young man, steps forward and very courteously asks if the stranger wishes to see any one in particular. When told that the principal of the school is the one sought, the young man offers to guide the stranger to the principal's office. On the way he casually inquires the stranger's name, and when the office is reached he introduces him to the principal.

(2) In another school the principal was showing the writer about the grounds. As we passed a group of boys it was apparent that two of them were boxing without gloves and regardless of any of the rules of the ring. The principal stopped, interested in noting what was wrong. Immediately an older student stepped forward and remarked, in a low tone: "You need not mind, Mr. H ——, we will take care of this matter." "Oh, very well," replied the principal, and we

passed on our way without giving any further attention to the incident. In that school a student committee coöperated with the principal in such matters.

(3) A high school wished to establish a printing department, but the board would give no encouragement in the way of funds. So the school asked the board to give them the school printing. With this concession from the board, the students and teachers organized a stock company and sold enough stock to furnish the plant. By means of the job work secured from the board and from other sources they were able to pay dividends on the stock or gradually to buy it up until the plant belonged to the school in fee simple.

(4) A cafeteria lunch service was organized in a high school. It was discovered that here was a good opportunity for practical business training for some of those in the commercial department of the high school. So the business management, including the buying, employment of service, sale of lunch checks, etc., was turned over to the students of the commercial group. All that the officials of the school had to do with it was to check up the accounts through a treasurer, who was a member of the teaching staff.

(5) A department of home economics was to be equipped in a case where the board of education was unable to do much more than to provide the kitchen equipment. The help of the boys in the wood-shops was enlisted; the board agreed to furnish materials. Under the direction of the cabinet teacher a fine dining-room set, and also a chiffonier and dresser for a bedroom set were produced, much finer than could ever have been bought. The young ladies also worked out a scheme of interior decoration, preparing the drapings, doilies, etc., and decorating the walls themselves. The results were marvelous, not alone in a material way, but most of all in the enthusiasm of the school for such a department.

(6) In another instance special desks for the art department and also for the bookkeeping classes of the commercial depart-

ment were first designed, then constructed, in the wood-shops of the school.

This is a sufficient number of cases to illustrate the point. With a school organized so that all the activities connected with it are entered into by the students as an essential part of the life and work of the school, we may see how the school becomes a veritable community working out its problems on a relatively high plane of intelligence. By insisting also that all this be done for the sake of the common welfare and not, in any case, exploited for private gain, some fine lessons in altruism and in a genuine civic consciousness logically result.

Let it not be imagined that any such situation is to be brought about in a day. There are always community prejudices to be overcome — prejudices whose intensity will likely vary inversely as the size of the community and directly as its age. Such a result is to be attained, if at all, outside of a newly settled community, by slow degrees and by persistent approach toward an ideal. The aggressiveness of those who lead in it should be well timed, and the vigor of it so adjusted as to preserve a steady forward motion rather than a ruthless onward sweep. The secret of success in it will lie in the ability of the adult leaders and guides of the school community to mold the spirit and life of the school until all shall be socially like-minded in regard to the matter of governing the activities of the community life which they represent.

Briefly, then, the internal government of a modern, composite high school should be democratic, representing complete coöperation among pupils and teachers. We hear much talk about student government in schools. There can be no such thing. The government of the school, officially speaking, is fixed by law and placed in the hands of teachers and supervisors under the board of education. But there can and should be a sharing in practically all of the responsibilities for which the school, as a community, stands. This is not student

government but community government — a democracy. And this form of government, without any noise or friction, is practically in operation in many if not most of our stronger and better organized schools today. It is a part of the success of such a plan that the situation be discussed freely among pupils and teachers; that the pupils come definitely to understand the conditions and to accept their share of responsibility. In this way only are they likely to be able to develop that degree of social consciousness, that community solidarity, which will make for right conditions in the larger social unit later on.

We all deplore the lawlessness which seems sometimes to characterize the lower classes of undergraduate students in our colleges. Careful study will show that many of the worst cases of this type spring directly from those whose government in high school has been of the severely autocratic rather than democratic type. Probably as many more come from schools poorly organized and with no well-established systems of government. When such students get into the free, democratic atmosphere of a university severe reaction comes by first impulse, with the distressing result referred to above. As our high schools become more thoroughly organized and more genuinely democratic in their government, we find the amount of this lower-class lawlessness of spirit disappearing. And this is the logical result.

Besides the legal aspects of high school government and the internal government of the school there may be added the external government. In a sense it is true that this and also internal government would be included, at least by implication, under "legal aspects." But just as in the study of internal government we have found many elements to consider that evolve from the nature of the school in operation, and are in no way directly hinted at in the laws, so there are certain conditions arising externally which call for some separate consideration here.

Such external government appears in the case of states where state departments or boards are given authority to determine the program of studies, or where certain conditions are fixed as a basis for granting subsidies as previously mentioned. By far the most important factor in government by the state, however, is through the efforts of states to supervise high schools in the matter of safety and hygiene of buildings, qualifications of teachers, and directing along profitable lines the various instrumentalities for the training of teachers in service. The state may also do much by putting into the hands of teachers and school authorities of high schools reliable information as to improved forms and methods of government or management which have been tested in other states or countries.

In a similar manner the county, through the county board and superintendent, may exercise a positive and wholesome influence on high schools that will tend to raise their level of efficiency. This would apply largely, however, to the high schools in villages and towns distinctly rural, since cities logically become units for expert supervision within themselves by reason of numbers. If counties generally, through their educational officials, might have authority to district their territory for high school purposes, this service would undoubtedly tend greatly to strengthen the high school work of county and state alike.

Another factor in external government making chiefly for more efficient instruction is that institutional supervision and educational extension work carried on through state universities and normal schools. The supervision is chiefly to determine standards of efficiency for college entrance by the certificate plan. Its effect everywhere is to raise the standards of equipment and instruction. The extension work is chiefly for the training of teachers in service. This is accomplished through lectures and study courses, through summer sessions, through conferences, and through the pub-

lication of educational bulletins. There is ample opportunity for all these external forces properly coördinated, working without duplication and without conflict, to accomplish much for the better government of our rapidly growing secondary schools.

CHAPTER VIII

READJUSTMENT OF ADMINISTRATIVE UNITS AS AFFECTING HIGH SCHOOL ORGANIZATION

WITHIN the last decade there has developed a widespread discussion of a particular plan proposed as a remedy for what is believed to be a maladjustment of the lower articulation of the high school in the common school system. There has long been dissatisfaction with the old division into eight-four groups or grades of all the children destined to follow out the high school program. This feeling has grown out of two or three conditions. First of all, the grades beyond the sixth have been felt to be too much of a repetition with a consequent marking of time by the pupils. In the second place, there has been no merging of the work into the high school stage. This has produced a feeling that a breach existed, or that the transition was too abrupt and too complete in passing from the elementary to the secondary stage of education.

A more fundamental view, perhaps, has been that there are profound psychological reasons for the maladjustment, — that the character of the work offered and the method of its presentation have not accorded with the stage of physical and mental development which these early years of youth represent. As a consequence of this discordant situation, it is contended that many who might otherwise have remained longer in school have dropped out in order to seek a more congenial field of action in some industrial employment.

One of the early efforts to meet this situation took the form of the introduction of some manual work into the grammar grades. This gave partial relief but did not admit of that

complete readjustment of the program of studies which the situation evidently requires. The organization of all the work for a grade under one teacher further increased the difficulty of such adjustment. The employment of special teachers for the manual arts, leading in cities to the establishment of "centers" to which pupils were sent for their shop work or sewing, ameliorated the situation but did not serve as a satisfactory solution of the problem.

The discussion of the needs of the grammar school program goes back at least thirty or forty years. Among the leaders in these earlier discussions were C. W. Eliot, George P. Brown, F. Louis Soldan, and W. T. Harris. Early in the last quarter of the nineteenth century men were discussing such topics as separate buildings and departmental organization, manual training, and the shortening of the course in the grammar grades. All of these proposals were tried in one form or another in schools here and there where professional enthusiasm and leadership of the superintendent were able to overcome for a brief time the force of tradition and habit. Never until the present time, however, has the conviction of the need become sufficiently general to start up a nation-wide movement toward the more radical readjustment which the situation really demands.

There are naturally obstacles to be overcome. First of all, traditional treatment has crystallized into legal enactments, construction of buildings, training of teachers, and supervisory plans, all of which stand more or less in the way of a general forward movement. It will take time to reorganize popular sentiment into necessary laws and to readjust the organization of units of control, the building plans, and the preparation of those who are to direct the work of this new order of school management. Added to these facts is that of the considerable increase in cost entailed. Superintendent Francis, of Los Angeles, speaking of the intermediate school, says: "Its disadvantage, if it has any, is the extra cost." The

character of equipment required, as well as of the qualifications demanded of teachers, naturally raises the aggregate cost of instructing the three grades included beyond that of the established arrangement. That this is more than offset by the increased efficiency of the schools seems not to be questioned. The cost, according to the most approved estimates, is likely to be intermediate between high school and elementary school. Mr. Briggs expresses the belief that there is some saving in the reduction of the number of "repeaters." On the whole it seems not unlikely that the cost, when averaged through elementary grades and high school, will not vary greatly from a similar average under the eight-four scheme. The coincidence of this movement with that of the widespread demand for more and better industrial training in the schools, while it furnishes a new and strong plea for the readjustment, also tends to complicate the situation in a manner calculated to impede progress. The cause of this tendency appears chiefly in the form of an effort by the more radical promoters of the interests of industrial education to utilize such an adjustment for promoting the interests of trade education largely to the exclusion of the real purposes which such an administrative change should subserve.

In spite of these various obstacles, however, the tide of the movement is strong and steadily increasing in momentum. The clearer understanding of the physio-psychic elements in the problem; the remarkable development of the free high school as a school for the masses, and the demand for a much more widely varied provision of opportunity according to individual needs and capabilities; the better understanding of the relation of administration to the work of instruction; the growing realization of the necessity of considering social needs of pupils in education, are all important factors in carrying forward this movement. At the present time this movement takes form in the establishment of a new unit, or a redivision of the twelve-year program of the common schools.

The first unit or division includes the first six years of the elementary school. The second, or new unit, includes the seventh, eighth, and ninth grades, and is known as the junior high school or the intermediate school. Following this come the remaining three years of high school, with the addition, in some instances, of two years usually designated as the junior college of the local school.

We may well take note here of the progress already made. On this point up-to-date statistical data are lacking, so that the extent to which this movement has developed can be given only in a more or less general way. T. H. Briggs [1] mentions the following facts as indicative of general approval of the plan: Recommendations in recent surveys; favorable action by the University of Minnesota; approval by the Wisconsin Association of Superintendents; unanimous indorsement by the Inland Empire Teachers' Association; adoption of the new plan of division by the National Council of Teachers of English in their study of the teaching of English. To these may be added the favorable recommendation by the Committee on Readjustment of the Course of Study to the Council of Education, California, 1912; Assistant Commissioner A. B. Meredeth's Report, New Jersey, 1913; the Wetzel Report to the New Jersey Council of Education, October, 1914; Report of the Commissioner of Secondary Schools, California, 1914, in which the plan is discussed; favorable action by the University of Michigan, 1914; favorable report of the Committee on Definition of Units to the North Central Association of Colleges and Secondary Schools, March, 1915.

If reference is made to the actual status of the movement in various sections of the United States, the following conditions appear: In New England the tide is set strongly in the direction of some such readjustment of articulation between grade and high school work. This is especially

[1] T. H. Briggs, "The Junior High School," in *Old-Penn Weekly Review*, Philadelphia, May 8, 1915.

noticeable in Massachusetts, Connecticut, and Rhode Island. Notable examples are found in the junior high schools of Norwalk, Connecticut; the departmentally organized grammar school with a special pre-vocational department at New Britain, Connecticut; the grammar school organization at Springfield, Massachusetts. In New York, while not much has as yet been done, the movement is on, as seen in the junior high school organization at Dansville, and as recently launched in the school system of Rochester. In New Jersey there are numerous instances of effort to break away from the old grouping, and the influence of the reports by Assistant Commissioner A. B. Meredeth, and by Dr. W. A. Wetzel, principal of the Trenton High School, plainly indicate the "set" of the tide. Notable organizations of junior high school work in New Jersey are in operation at Orange and Trenton. In the North Central group of states, as shown by a roll-call on the subject at a recent meeting of the Board of Inspectors of the North Central Association of Colleges and Secondary Schools, there are only two or three states where there is not some action in evidence looking toward such reorganization. In Ohio this appears especially at Columbus and Cincinnati; in Indiana at Richmond and Gary; in Michigan at Grand Rapids, Detroit, and Kalamazoo; in other states less noticeably as far as actual organization is concerned. In the South a recent number of the *Kentucky High School Quarterly* gives an admirable survey by G. M. Baker, of the University of Kentucky, which shows that the movement is well under way in that state.

As to the Pacific Slope, the country is now quite familiar with the remarkable growth which the plan of readjustment has had in California. It is fair to say that this state stands well in the lead over all in this respect, and that in California the city of Los Angeles shows the most notable advance. Next to this, in the country at large would doubtless come the city of Grand Rapids, Michigan. Douglass tells us that the

movement now exists in twenty-three states, and that there are sixty-eight cities having junior or intermediate schools in actual operation. He finds twenty-three systems having seventh and eighth grades in junior high schools, and twenty-seven with seventh, eighth, and ninth grades included.[1] Will C. Wood, State Commissioner of Secondary Schools, California, gives a good summary of the situation in that state in his report for 1914. In this he calls attention to three different plans advocated by educators. These are the "six-six" plan, meaning six years of elementary followed by six years of high school; the "six-three-three" plan, including six years of elementary, three years of "intermediate," and three years of high school; the plan of a twelve-year common-school course with the years or grades throughout properly linked or articulated. Of this situation Commissioner Wood says:

> In California, all three of these plans are being tried. The plan of a six year elementary school, followed by the six year high school, is being tried in Santa Rosa. The plan of a three year intermediate course, including the seventh, eighth, and ninth years, followed by an upper high school course of three years, is being tried in Berkeley, Los Angeles, and Palo Alto. The plan of maintaining the traditional grouping of eight years in the elementary school and four years in the high school and introducing some secondary school work as early as the seventh year, is being followed in Alameda, Oakland, San Francisco, Santa Monica, Anaheim, Santa Ana, and San Diego. So far it is impossible to determine which of these plans is best, nor is it necessary that we do so. We are justified, however, in concluding that any of the three plans is better than the old arrangement.

If we add to the three plans thus characterized as being in operation in California one other plan of securing the needed readjustment, we shall have practically all the typical plans now in operation. This fourth plan is the segregation of the grammar grades, seventh and eighth, and putting them on a departmental basis. An older variant of this plan would be

[1] A. G. Douglass in *Pedagogical Seminary*, June, 1915, pp. 252–74.

such a segregation under departmental administration, without any effort at a closer coalescing of courses between these grades and the high school. Investigation reveals the fact that in a considerable number of cases where schools are classed as representing junior high school work the only change that has been made is this segregation of grammar grades. For purposes of this discussion all schools of this particular variant type may be dismissed from our consideration as not in any very important sense affecting the readjustment sought.

The real readjustment is to be made, if made at all, in the materials and processes of education with special reference to the changing conditions in the physical and mental characteristics of those to be educated. Here lies the fundamental fact to be considered first of all where any movement is undertaken for reform. It is undoubtedly true, as is pointed out by those who have experimented most successfully in this matter, that a change in administrative units and a segregation of two, three, or four grades presenting problems most alike in this period of development just merging into adolescence will prove an important auxiliary to successful accomplishment. This is pointed out in the report on the intermediate schools of Los Angeles for 1913–14.[1] Referring to this particular element in the problem the report reads:

> The restless, changing period of adolescence covers about three years, including generally the period of the seventh, eighth, and ninth grades of school. In these grades the interests are similar and methods of discipline should be about the same for all, but very different from those of the lower grades. Under careful guidance, children reaching out after the responsibilities of life are given an opportunity to assume them.

Writing on the same topic Superintendent Templeton, of Palo Alto, California, says:[2]

> The intermediate school is primarily a scientific [is it?] attempt to secure a homogeneous school atmosphere and through its influence a more

[1] This report is published in the March, 1915, number of the *Elementary School Journal*, Chicago, pp. 361–77.

[2] From July, 1915, number of *Kentucky High School Quarterly*.

vital and effective interest in school work by both pupils and teachers through organizing the seventh, eighth, and ninth grades as a separate school.

Superintendent Cassidy, of Lexington, Kentucky, speaks of the three year junior high school as follows: [1]

All of its work should be related to life and its varied activities. Such a school should be, in large measure, a laboratory, in which the talents and inclinations of the students should receive consideration, and be intelligently directed.

These expressions fairly characterize sentiment as regards the proposed new unit from the point of view of the desirability of segregating the three early years of adolescence. It will be seen, however, that the chief cause argued for such segregation is the psychological one referred to above. The treatment of the two or three grades as a separate group will facilitate, but is not essential to, the more important and radical changes in the organization and presentation of subject matter in this transition period. The work of the elementary school and high school may thus be caused to coalesce naturally so as to remove any hiatus that may exist, and so that there may be an unbroken forward movement throughout all the grades of the common school. It is doubtless true that such a result might be attained by either of the four plans now in use, as already stated above. It seems not less equally fair to believe that segregation into a group of three would greatly enhance the efficiency of the school, especially in its advisory and selective functions and as a means for cultivating social amenities and virtues.

Considered in this light it becomes readily possible for smaller communities to organize the program of studies, with departmental instruction extended downward, so as to meet the more fundamental needs of the situation. On the other hand, if separate buildings were essential in every instance, such a plan of readjustment would be capable of realization only in the larger cities, although the same causes of its need

[1] From July, 1915, number of *Kentucky High School Quarterly*.

would exist in smaller communities and in the rural districts as well. In the latter instance it has been well argued that such a general plan of organizing the instructional work of the entire adolescent period would be a practical impossibility without consolidation of the rural schools.

Among the obstacles to such an administrative readjustment, even in the larger cities, is that of traditional ideas as to school buildings. In this matter no city that has yet undertaken such a plan of reorganization — unless in a case like that of Gary, Indiana, where organization plans have all begun *de novo* within the decade — has found itself free from difficulties in this phase of the introduction of intermediate schools or junior high schools. In Grand Rapids, for instance, the first real junior high school fell heir to the outgrown central high school building when the present fine new structure was provided. In another instance in the same city the work is organized in a building which includes the six lower grades of the elementary school and the six grades of high school pupils. A third school, opened in September, 1915, is a six year high school in a building planned and constructed for that purpose.

In the city of Los Angeles, as shown by the reports, a number of special adjustments have had to be made aside from the eight regular intermediate schools of that city. The enrollment for the year 1913–14 shows the following distribution of the seventh, eighth, and ninth grades: [1]

Year 1913–1914	Seventh	Eighth	Ninth	Total
In Intermediate Schools	2,774	2,339	948	6,061
In Grammar Schools	2,755	2,280	.....	5,035
In Night Schools	628	1,515	.....	2,143
In High Schools	.....	.....	2,984	2,984
Total	6,157	6,134	3,932	16,223

[1] This table is from *The Elementary School Journal* of March, 1915.

Douglass finds that there is a distinct gain in high school enrollment as compared with the results under the old system.[1] The following table from the report of the Los Angeles intermediate schools is corroborative of this statement:[2]

PERCENTAGE OF THE PUPILS IN VARIOUS GRADES AND YEARS

Year	In Kindergarten to Grade VI	In Grades VII–IX	In Grades X–XII
1896–97	84.4	13.3	2.6
1897–98	83.4	13.4	3.2
1898–99	83.0	13.8	3.4
1899–1900	81.7	14.2	3.4
1900–01	83.2	13.7	3.2
1901–02	83.5	13.4	3.1
1902–03	82.8	14.3	3.0
1903–04	82.4	14.9	3.8
1904–05	82.3	15.2	2.7
1905–06	79.6	16.6	3.0
1906–07	79.8	16.6	3.4
1907–08	78.0	17.8	3.8
1908–09	....	....	...
1909–10	75.8	19.5	4.8
1910–11	74.9	19.9	5.1
1911–12	74.2	20.0	5.4
1912–13	73.8	19.7	6.3
1913–14	73.3	20.3	6.6

The evidence generally is, however, that the work for these intermediate grades does not require such expensive buildings and equipment as does that of the high schools. In fact it is a comparatively simple matter to convert an elementary school building into a suitable home for an intermediate or junior high school. In the large cities there will probably

[1] *Op. cit.* p. 60.

[2] Quoted from *The Elementary School Journal*, March, 1915, p. 376.

always be found necessary cases of adjustment similar to those in such a rapidly growing city as Los Angeles. Such adjustments as to buildings have always been found necessary in establishing new high schools. Besides, there will be some feeling among patrons that the younger boys and girls of the grammar grades are required to travel too far to school. It is evident that these schools would probably be a little more numerous than high schools; but each individual school would also need to serve a larger district than the elementary schools. In many cases this would raise the question of transportation. There can be little doubt, however, that the best possible conditions are to be had only through segregation of the grades concerned, and in buildings planned especially for the work to be accomplished.

It is in the readjustment of the curricula of the schools that the greatest obstacles have to be met. This may be attributed almost entirely to the inflexible traditional attitude of teachers and patrons toward the work of the schools. But that this problem can be solved is evident by what has already been accomplished in New Jersey, Connecticut, Michigan, California, and other states. The problem of curriculum making is an acute one in all stages of high school work, and there is little doubt but that its solution as a whole may be greatly simplified by working it out in connection with this proposed readjustment in gradation and the grouping of all the pupils of the adolescent period. This is a subject which will be considered further in a later chapter.

As previously noted, this reorganization plan is usually referred to as the junior high school or the intermediate school. At the present time it seems inadvisable to undertake to decide as to the relative merits of these names. In either case the seventh, eighth, and ninth grades are referred to. Little further is to be said as to a definition aside from what has already been emphasized. These three grades, whether segregated or not, constitute a homogeneous group. They

call for readjusted equipment, a readjusted program of studies, and a special type of teacher qualified to deal with the peculiar problems of such an age-group.

In the matter of equipment the plan involves the provision of laboratories, but not with such elaborate equipments as those of our better high schools. There will also be needed workrooms or shops of various kinds, with kitchen, sewing room, etc. for the girls. The shop, as Dr. Wetzel has aptly defined it, should be "an institution rather than a building. In some cases a pupil may be in a shop building printing tickets for a football game. In other cases he will be on the athletic field building a grandstand." This conception of the shop does not mean that the pupil is necessarily going to qualify for a particular trade. It is to serve as a place for doing various "stunts" which will take the place, in a way, of what the farm boy with his "chores" gets that is of real educational value. It will give the pupil a chance to acquire a certain type of judgment very necessary to the best achievement in any calling, but which cannot be learned from books.

In calling attention to the existing situation under the old classification as emphasizing the need of a readjusted program, Dr. T. H. Briggs says:[1] "The justification of the usual single course for all children has usually rested on a profession that democracy should afford an equal opportunity to all; but inasmuch as children of this age differ so markedly in ability, interests, and ambitions, democracy is fair only if it offers to each pupil what will advance him in his peculiar development. The persistence of the traditional organization of the upper grades results in an annual loss of an impressive army of children, none of whom will contribute to society as well as if the school had adapted itself to his needs. The aggregate loss is tremendous."

All this means that the program of studies should be broadened. Some of the high school work will be taken up earlier,

[1] *Op. cit.* p. 58.

especially in languages. There will also be added a liberal number of exercises of a practical character in a business way, in mechanical lines, or in gardening. Superintendent Templeton, of Palo Alto, California, after calling attention to the attempt to secure a homogeneous school atmosphere as the prime object, says: "As important, though of secondary consideration, such an organization should aim: (1) to bridge the gap between the eighth and ninth grades; (2) to make possible a more flexible and broader course of study; (3) to work toward individual promotion instead of grade promotions; and (4) to prepare for high school methods of instruction and administration by means of departmental work." [1] These are the aims as far as readjustment of curricula is concerned.

The first distinct modification that appears is the elimination of some of the usual topics of the grammar grades and the inclusion of a number of electives. In the intermediate schools of Los Angeles are offered the following subjects with enrollments in May, 1914, as indicated: [2]

Algebra	1,970	Geography	1,485
Arithmetic	2,986	History, United States	3,786
Bookkeeping	1,643	History, Ancient	614
Commercial Arithmetic	482	Music	4,407
Cooking	2,662	Oral English	1,679
Drawing, freehand	3,347	Penmanship	3,701
Drawing, mechanical	500	Physiography	615
English	6,809	Physiology	2,371
Foreign Languages:		Sewing	2,993
French	497	Spelling	6,809
German	816	Stenography	1,737
Latin	596	Woodwork	2,773
Spanish	2,819		

This is from a total enrollment of 6,809.

[1] Quoted from *Kentucky High School Quarterly*, July, 1915.

[2] Copied from *The Elementary School Journal*, March, 1915.

The plan proposed for the junior work at Orange, New Jersey, includes:[1]

(1) A course leading directly to the Academic Course in the High School.

(2) A Commercial Course, which will better fit the children to take up commercial work in the high school.

(3) An Industrial Course, for boys and girls, which will lead directly to some useful occupation.

(4) A course for backward but capable pupils.

The Binford Junior High School of Richmond, Virginia, offers a general curriculum, a pre-vocational, and a commercial, with a liberal number of electives for each curriculum. At Norwalk, Connecticut, three programs are outlined — manual arts, academic, and commercial. The first is divided for the eighth and ninth years into a shorter course and a general course. The third is similarly divided into clerical and commercial courses.

Thus it appears that there are varying ideas as to what should be included in the program of the junior school. In the report of the California Committee on Readjustment of the Course of Study, published in 1912, we find the following: "The plan tends to break up the traditional notions about the grouping of grades. It secures prolongation of formal education for many who would otherwise drop out of school. It furnishes an opportunity through optional courses for better occupational preparation as well as better preparation for the more advanced high school grades." The programs given above readily correspond to this characterization.

One of the distinct problems presented, therefore, is that of election and differentiation. The desirability of this feature of the reorganized program seems to meet with very general assent. The only question raised is with reference to differentiation along vocational lines. It is feared by some

[1] From *Document No. 39, Council of Education of the State of New Jersey.* The Junior High School.

that such differentiation may have the effect of eliminating some of the most fundamental products of race-experience, and at the same time tend to establish industrial classes as opposed to democracy. A study of the programs of junior and intermediate schools does not indicate that any of the fundamental elements are omitted. It is true, as in the California report above referred to, that "occupational preparation" is provided for. This is desirable in order to meet the necessities of those for whom, chiefly for economic reasons, there may be no high school training. Even in these instances there is found a liberal degree of academic training.

A fair illustration of the safeguarding of the program against a lack of "a common basis of knowledge, ideal, and aspiration," as Bagley would express it, is seen in the program of the pre-vocational grammar school of New Britain, Connecticut. In the practical arts courses for both boys and girls, nine hours a week are given to industrial work and twenty-one hours to regular school work. The latter includes English, arithmetic, geography, history and civics, reading and literature, science and health, music, penmanship, physical exercise, general exercises. The superintendent of the New Britain schools insists that his teachers keep in mind the idea that the graduates of these pre-vocational courses may just as readily find their way into the academic high school as into the vocational high school. At the same time it is one intention of the industrial instruction to provide each of those who are likely to drop out of school early, and become at least self-supporting, with enough skill and knowledge pertaining to one occupation to enable him to sustain himself in an honorable way.

This, in general, seems to be the prevalent attitude of those who are organizing these readjusted programs. No one doubts the fact that there are many boys and girls who cannot complete high school training, no matter what the plan of courses may be, and in spite of the fact that it would be better

for all concerned if every one might have no less than a good four year high school training, counting time by the old standards. A much larger number is appealed to by this broadening of the program, and many more differing types of mind are thus represented in those who advance through the intermediate school. It is the differentiation that finds a place for them, or enables the individual the more readily to find himself. And all this is what both society and the individual want.

The central problem of the whole matter is found in the proper balance to be maintained between the materials and exercises that make for broader intelligence, sympathy, and appreciation of the finer products of human experience and human thought on the one hand, and that training to knowledge, or skill, or both, which is needed in fitting one for a vocation. The chief obstacle in the way of a fair solution of this problem is the traditional outlook, on the one hand, toward all manual labor as unrelated to that education which enlarges and frees the mind; and on the other hand, that equally narrow tradition which causes men of learning and of profound interest in the humanities to look with disdain upon any kind of labor with the hands. Neither of these conceptions belongs in a democracy. They are a legacy from the days of human slavery and the degradation of labor.

One of the fine things which our great state university system is doing for the world is to teach young men and young women a respect for intelligent skill in any form as long as it is directed toward securing human well-being. The mingling of those who delve in studies of the classics, of history, and of law with those who serve apprenticeship in the engineering shops and laboratories or in the labors of the experiment field in agriculture, is responsible for this influence in such institutions. It is akin to a situation, notable especially in England and in Germany, which enables the trader or the banker to be an expert in literary fields or in some line of scientific re-

search, purely as an avocation, while he industriously and successfully conducts his business; or which makes it possible for a Francillon, barrister, to be at the same time a charming writer of myth stories and a composer of operettas.

This country once resounded with the name of Elihu Burritt, the blacksmith linguist; but no one seemed to think of the significance of the rareness of such a combination. As a matter of fact there is no one of the great, fundamental occupations of men which may not very readily be made the basis and center on which and about which to organize the richness of art, literature, history, and science. And this is the logical thing. It is in the doing of real things that the most fundamental judgments are to be acquired — that peculiarly desirable quality in individuals, generally called common sense. Most of the older men, the real conservatives, forget this when a discussion is on for the introduction of more industrial training in the schools. They forget that much of the zest they had for their pursuit of learning in the college was supported and made effective by this same common sense element, this necessary acquisition in early life of judgments found in action and in contact with nature and with men.

As society, by the changed organization of industry and by child labor legislation, has almost eliminated the opportunity for boys and girls to get such experiences out of school and in the ordinary relations of life, so society should see to it that some such opportunity is restored through the training of the school *in the early years of adolescence*, where such experiences should logically come. That was no mere dream of a writer of fiction, but a profound pedagogical truth which Gene Stratton-Porter caused the mother of "Laddie" to express when explaining the attitude of their home concerning the education of their sons and daughters:

> Father takes the boys in hand and they must graduate in a straight furrow, an even fence, planting and tending crops, trimming and grafting trees, caring for stock, and handling plane, auger and chisel. Each one

must select his own wood, cure, fashion, and fit his own ax with a handle, grind and swing it properly, as well as cradle, scythe and sickle. They must be able to select good seed-grain, boil sap, and cure meat. They must know animals, their diseases and treatment; and when they have mastered all he can teach them, and done each thing properly, they may go for their term at college, and make their choice of a profession.

Referring to the training of their daughters, the mother of "Laddie" says:

Before any daughter has left our home for one of her own, she has been taught all I know of cleanliness about a house, cookery, sewing, tending the sick, bathing and dressing the new-born. She has to bake bread, pie, cake, and cook any meat or vegetable we have. She has had her bolt of muslin to make as she chose for her bedding, and linen for her underclothing. The quilts she pieced and the blankets she wove have been hers. All of them have been as well provided for as we could afford. They can knit, darn, patch, tuck, hem, and embroider, set a hen and plant a garden.

In these two characterizations, one for the boys and the other for the girls, lies the gist of all our theorizing about manual training and domestic economy in the schools. They are not, fundamentally, to take the place of the essential elements of a school education. They are rather to round out and enrich it by giving it a significance in relation to the life which real men and women must live. They will "take up the slack" that all concede is now in our lower adolescent grades of school work. There is no more danger of causing a boy to be turned away from his possible "cultural" education to become forever fixed in a "lower stratum" of society than there is that, if he is pushed through on a diet of pure "book learning," he will be turned out of high school a "mollycoddle," unfitted for anything, most of all for finding his own way in life.

On the other hand, there is another form of traditional conservatism against which we need to guard the schools, and against which a warning has been sounded again and again. There are those who still undeniably look upon labor as a thing to be exploited for gain by those more powerful as captains of industry or as holders of capital. The cause is

the same backward look toward days of human slavery already pointed out as affecting the point of view of the learned class. The difference is in the angle of vision. The chief argument of this latter class is the need of skilled labor. When this is analyzed, however, it appears to put the emphasis on skill without intelligence — the kind of skill that makes the good operative in a factory, or clerk in a bank, with the omission of anything in the training to cause either to rise above a certain dead level of existence. Any such advance in ideals is known to produce an effect on economic relations such as is calculated to reduce the profits of both capital and the promoter.

Here, then, are the two opposing principles, both more or less entrenched behind traditions, both more or less selfishly grasping and zealous to retain the distinction or the power which superior learning or superior wealth may seem to yield. Then there is that undiscriminating distaste for too direct contact with the elements of nature. We are too prone to look in pity upon the man working in the mire of the ditch or in the grime of the mine, as though these things were peculiarly contaminating. Yet a little thought teaches us that they may not be as defiling as the moral "mire" or "grime" of the courtroom, of the trading pit, or the editor's chair. There are defiling things no less potentially bad at the operating table of the surgeon, in the consulting room of the physician, and even at the confessional of the church. But we know that the real effects of these contacts, whether harmful or not, must depend upon the character of the inner man; and yet we are too easily content to leave the common workman in the ditch and in the mine unprotected by such inner strength.

It is for the cure of these antagonisms that we really care in our efforts to provide better for the sharing, among all classes, of the best and most worth-while products of race-experience and achievement. This is the ideal that should be kept always in view when we are planning any such great

and significant readjustment as that which is represented in the establishment of the intermediate school with its individual promotions and its broad program of elections, with always a liberal provision for purposeful motor activities.

There will be room for further consideration of these problems when, later, the entire high school program of studies is discussed. It must be evident that the success or failure of such a radical change in the administration of the common schools will depend upon the right-mindedness of the teachers with regard to this whole matter. No less important, although not so direct in bearing, will be the attitude of all thinking men and women who have been educated under the old régime. In spite of all obstacles and drawbacks, however, the movement promises much for the more logical and effective administration of education. No community contemplating the erection of new high school buildings can afford to leave the interests of these intermediate grades out of consideration. And no educational committee charged with looking after educational legislation can afford to ignore this new demand for appropriate legislation necessary to make free action by school authorities on this proposition legally possible.

There is another matter concerning the readjustment of administrative units to be considered here. The extension upward of the high school to two years of junior college work, while not at present so critical a problem, is rapidly approaching that stage. Such a development is readily possible in the large centers of population, where the taxing units are strong enough, and where there is likelihood of a sufficient number of students for these courses to make their establishment economically desirable.

The reasons for the desirability of such advanced courses in the local high schools are: (1) Opportunity to round out the adolescent period in the home school; (2) the possibility of so much better preparation for vocations for those who may not undertake a university training; (3) relief of higher

institutions from such a heavy burden of lower undergraduate work, thus freeing their resources for more advanced work in the interests of science and its successful application to human needs and social betterment. The two chief obstacles appear to be: (1) Lack of sufficient funds to establish the work on the most efficient level of teaching and equipment; (2) the "downward pull" of the lower adolescent grades, as compared with the uplift of higher university work.

It should at once appear that the establishment of a segregated intermediate school would relieve the situation as affected by the last-named obstacle. At the same time it would enable a community better to round out and complete the work now undertaken in our high schools. It would also give an additional "selective" opportunity, at the close of the high school period, for boys and girls who are not sure of the vocation for which they really want to prepare themselves. This would undoubtedly tend to save much of the waste caused by the many failures in the first year of college work. Among other results such added resources would make possible a higher standard of preparation of teachers for rural and village schools. There is all the more reason for this, since our normal schools are rapidly becoming teachers' colleges with four-year professional courses.

It is interesting to note that this type of high school development has been most marked in the same regions, mainly, where the junior high school is most developed. In California the postgraduate work of high schools is legally established; while one of the most successful schools of this type is in the Central High School of Grand Rapids, Michigan.

CHAPTER IX

SELECTIVE AND ADVISORY FUNCTIONS OF THE SCHOOL

In discussing the evolution of functions in high schools, attention has been called briefly to that of guidance. Recently there has been much discussion concerning this function of the modern school under the heading of "vocational guidance." The first work of this type under that title seems not to have been in the public schools. To Mr. Frank Parsons, of the Civic Service Home in Boston, is believed to belong the honor of first inaugurating such work. The phrase, however, seems an unfortunate one. It evidently had its origin under a somewhat different aim from that which now receives the same title. The original idea seems to have been to guide boys and girls in securing suitable occupations when, for economic reasons, they were compelled to drop out of school. In a number of instances bureaus were established in public schools and other institutions for the purpose of assisting needy pupils in securing jobs. It was such a situation that arose in New York City and out of which grew what was called a "vocational guidance survey." Probably the most important conclusion reached as a result of this survey was that "vocational guidance should mean guidance for training, not guidance for jobs." [1]

Since that time much interest has been awakened in this whole matter, and the subject has become a broader one in the minds of students of educational problems generally. As a result vocationally selective courses have been organized; advisory boards have been created; studies of vocations,

[1] From *Report of Vocational Guidance Survey*, by Alice P. Barrows, Bulletin 9, Public Education Association, New York, 1912.

their needs and their promise, have been inaugurated; administrative groups have been arranged with reference to this function; and many books and articles have discussed the problems presented. One resultant, among others, is the realization that the subject itself is much bigger than the original content given to the phrase "vocational guidance." For this reason the phrase "selective and advisory functions of the school" has been used as a more proper heading for this chapter, which undertakes to deal briefly with this problem of high school organization at its present stage of development.

More and more the school, especially the school for the early adolescent period and the high school, is coming to be considered a place for selection, — an opportunity for boys and girls to "find themselves" with reference to vocations. This, of course, applies to those who are going forward to a university training as well as to those who may be compelled to enter upon their life-work at the close of their high school curriculum or before. In this fact we find the real significance of the elective plan in respect to courses of study. It was probably never primarily intended by those who first advocated elective courses in high schools that there was to be any such haphazard, idle choosing as has so often characterized this plan in operation in the past. The very fact that widely differing curricula have been made possible by the elective system would seem to imply a rigid safeguarding of the interests of individual pupils against unwise and hasty choosing.

At last a way is proposed for avoiding the wastefulness of time and youthful resources that has so commonly resulted from unguided election of courses. The necessity of making choices among courses or studies naturally carries with it the assumption of some knowledge, on the part of those choosing or advising choice, as to the natural tastes and abilities of the chooser on the one hand, and, on the other, as to the requirements of the occupation or profession to be chosen. It has taken a long time for the educational world to awaken to this

simple fact. Like all such movements, however, the need has been seen and the idea grasped here and there for at least a quarter of a century.

The earliest appearance of this movement known to the writer was in 1889. At that time such a plan was developed in the high school at Bellevue, Iowa. On each Friday afternoon, for about one-half of the year, the last quarter of the school session was devoted to readings and talks to the pupils on "What things there are to do in life, and the preparation required in order to do them." Sometimes representatives of different callings and professions addressed the school, each on the essentials to success in his own line. At other times letters from men prominent in various occupations were read and discussed. Then again the superintendent or some teacher would take up the essentials of a given field of work. The results were exceedingly gratifying. A comparison of experiences with others will readily convince one that similar efforts were undertaken, as early or earlier in our educational progress, in a number of situations, each working toward the same end, although not aware of what others were doing.

The present movement is but one manifestation of a much wider and more comprehensive social movement. Child labor legislation; pure food, health, and sanitation agitation; the playground movement and open air schools; general temperance laws; compulsory school attendance; care of defectives and delinquents; sex hygiene and moral education — all, with vocational guidance, form a part of the great social conservation movement waxing stronger and more effective with each year's campaigning, with almost every session of the many state legislatures of this country. Yes, more than this, it is a movement felt throughout Christendom.

The plan is to make intelligent use of the broadly cosmopolitan program of studies as a basis for choosing and preparing for an occupation or a career. In order to do this it at once becomes necessary for principal and teachers to be informed

as to the general character and requirements of at least the various fundamental occupations of which all secondary types may be considered the offshoots. Those who are to become the expert advisers and counselors of youth should know what essential physical and mental capacities these occupations call for; to what extent they admit of the conservation and further development of these powers; their relative safety and healthfulness; the fundamental ethical qualities involved; whether a given occupation admits of sufficient advancement or leads up a "blind alley"; whether it is rising or decadent; whether it really contributes to human well-being; whether it is sufficient, within itself, for the needs of life — for bread, for home, for family, for education, for good citizenship, for leisure.

Not only is it necessary and desirable that teachers should be informed regarding these outward conditions of intelligent choosing and advisement, but it is equally essential that they should understand pretty definitely what contributions their own and allied subjects may be expected to furnish toward the most effective and economic preparation of youth for any or all of the occupations to be considered. It will appear at once that here will be one of the most unguarded points presenting a situation of least preparedness for meeting the problem intelligently. With most of those who are entering upon the work of teaching in high schools, this matter has had no consideration. The reason is that the majority of those who train the teachers are almost equally unprepared.

As a matter of fact, the regular school subjects and exercises furnish one of the most effective avenues of approach, or better, perhaps, conveyances by which to get into the minds of the pupils the necessary comprehension of the character and needs of the varied groups of occupations which may confront them as possibilities. Principal Jesse B. Davis, in his book *Vocational and Moral Guidance*,[1] calls attention to this fact

[1] Jesse Buttrick Davis, *Vocational and Moral Guidance*, Ginn and Co., Boston, 1914.

and amply illustrates the possibilities, especially in the teaching of English. Other subjects, such as chemistry, biology, and geography, readily lend themselves to this purpose. And it goes without saying that the introduction of courses in manual training, household arts and economy, commerce, and agriculture makes available much very direct and concrete material for conveying to pupils intelligence with regard to vocations.

When we come to consider the pupils' necessary vocational knowledge as a basis for selection, it will be found desirable to use all possible agencies, since the acquisition of this knowledge must of necessity, and should preferably, be a cumulative and developmental process rather than an aggregation suddenly acquired. Further, the success of any plan by which it is undertaken to secure this intelligence through growth will vary directly in proportion to the breadth and freedom represented in the use of materials presented and the exercises required in the school. If, for instance, pupils are confined too much and too early to definite curricula as a basis for choosing, rather than given certain freedom of choice among subjects, it might become easily possible to deprive them of some fundamental elements of the knowledge which in their cases might be required in order to choose aright. This raises a vital question as to the desirability of the practice, already noted in the preceding chapter, of formulating three or four definite curricula as a basis for election in the intermediate school. Superintendent Holmes, of New Britain, Connecticut, seeks to obviate this difficulty, at least partially, in his pre-vocational school by rotating the boys and girls each year through a vocation group of several subjects instead of requiring them to be confined to one special line.

There is an important sense in which the intermediate school is a pre-vocational school in that it is a sort of laboratory where individuals are subjecting themselves or being subjected to experimentation in order to obtain at least a crude analysis

of their capabilities. Nothing could be more foreign to this purpose than to have many of the pupils confined within the bounds of a given curriculum — limited, of necessity, as far as any general outlook upon the fundamental possibilities of school training is concerned.

In providing plans for vocational guidance the customary method is to arrange for enough specially selected members of the teaching corps to enable them to keep in touch with individuals in need of counsel as to their future work. In a report made about two years ago by a special committee to the Superintendent of the Cincinnati schools, the following conditions were presented as essential to the provision of vocational guidance in a large high school:

(1) A school organization which will permit of the close personal contact of each pupil with at least one teacher of the right type.
(2) The exercise of an intelligent and sympathetic helpfulness on the part of the teacher.
(3) A logical analysis of the personal characteristics of each pupil.
(4) An understanding of the relation of the school work to the life career motive.
(5) The adaptation of the school work to the vocational needs of the community.
(6) The appointment of a director with time for supervision.

Perhaps no presentation could more forcibly express the gravity and extent of the problem than does this report with its comprehensive array of essential "conditions." At the same time it wisely emphasizes the need of keeping this task largely in the hands of the teachers.

Principal Davis, of Grand Rapids, outlines the work of a department of vocational guidance as follows: [1]

1. To make a local survey of vocational opportunities.
2. To make a survey of opportunities for vocational training.
3. To promote through the public-school course of study a systematic effort to direct boys and girls in the choice of and preparation for a vocation.

[1] *Op. cit.* p. 167.

4. To make a local survey of conditions under which boys and girls are employed.
5. To maintain a kind of employment bureau for the pupils who leave school at or before graduation.
6. To have general oversight over the system of granting permits to go to work and of following up those boys and girls under eighteen years of age who are at work.

Principal Davis also gives the following outline of a general plan of organization of a vocational guidance department:[1]

I. Department of Vocational Guidance.
   Department of the public school system.
II. The Commission on Vocational Guidance.
   Seven members appointed by the board of education.
III. The Vocational Director.
   1. Appointed by the board of education.
   2. Supervisor of instruction in vocational guidance.
   3. Director of the vocational bureau or office.
      (*a*) Investigator of vocational opportunities.
      (*b*) Investigator of opportunities for vocational training.
      (*c*) Manager of employment bureau.
      (*d*) Sponsor for children at work on legal permits.
   4. Chief vocational counselor.
      (*a*) Instructor of teachers doing vocational counseling.
      (*b*) Consulting counselor for public, private, or charitable institutions.
      (*c*) Vocational counselor for the public in general.
   5. Employees of the department.
      (*a*) Enumerator of school census.
      (*b*) Working-permit clerk.
      (*c*) Expert investigator.
      (*d*) Truant or attendance officer.
      (*e*) Stenographer.

In the two schemes above outlined — the one for Cincinnati and the other emanating from Grand Rapids, where a similar plan is at least partially developed — we find a proposal to establish a special department under the board of education for carrying forward this very important task of performing the

[1] *Op. cit.* p. 172.

selective and advisory function of the schools. It is probable that there would always be required some special supervisory official, at least in a large system; and there might be the necessity for a fully organized department. It seems evident that this might at least be the case until the work can be completely installed in the schools. One is compelled to consider, however, that such a scheme is not without questionable features. This whole matter appears to be a proposition to deal with one of the most important sources of motive for study. Ever, in the memory of most educators, there has been a decrying of the lack of definite relationship between the work of the classroom and the work of life. Yet here is a proposition so to organize a vitally important function of the school as outside of and more or less distinct from the work of the classroom. It would seem to be the natural tendency, judging from past experience with similar administrative problems, that such a department should grow more and more formal and farther away from the actual teaching work.

The only way, apparently, to avoid such a tendency toward separation and the assumption of a bureaucratic relationship to the schools would be so to organize as to relate the department at every important point of contact inseparably and organically with the work of teaching and with the general social interests of the high school. To this end, among other things, it would seem that the work of selection and guidance in preparation for life should be kept quite distinct from the business of assisting pupils in finding suitable jobs. The essence of the matter is that the service of the school must ever be a broader one than preparing for particular occupations. There is a very important interest of society to be conserved, over and above the matter of industrial efficiency; and the interest of the individual in life itself should far transcend that of merely earning a living, fundamentally important as all must concede this latter function to be. It is desirable,

therefore, to reduce to the minimum in the schools the influence of the impending job as an interest that may easily overshadow the larger human need.

With such a situation to be met, it would seem desirable that any school system contemplating a serious attempt at fulfilling this function of the school should first see to it that the teachers, or at least all those who are to attempt advisory work, have informed themselves as to the nature and requirements of all the leading occupations. They should also have diligently considered the relations, direct and indirect, which the subjects they teach bear to these occupations. Further, if this function is worthy of recognition as an important factor in high school government, institutions which undertake to train teachers on the professional side of their work should make due provision for instruction along these lines of occupational intelligence.

All the forces of the school should be set to work, as far as practicable, in helping to arouse conscious interest on the part of pupils in this particular phase of their school training. To this end a quantity of more or less specific material is available and may be utilized. In the form of literature, stories, biographies, descriptive articles in periodicals, state and Federal bulletins and reports may be collected and classified with special reference to the needs of this work. Excursions may be arranged for the study of such industries as are represented in the community. Much narrative and descriptive material may be had at first hand from teachers and pupils or in the form of lectures by professional men and by men skilled in arts and in various industrial pursuits. Where practicable, lantern slides and also moving pictures may be used to great advantage in bringing clearly before the pupils many of the conditions under which men work in shops, in offices, in mines, etc. Interspersed with all this should be instruction concerning the physical and mental capacities required of the men and women who serve in these various

occupations. No more admirable basis for effective moral instruction and growth could possibly be found.

All this loading up with observations and with the related experiences of others, however, can never by itself be made to round out the process. There will need to be much actual work by the pupils themselves — such work as can be furnished in shops and laboratories, in carrying forward the community projects of the school, and in well-directed or carefully selected vacation work. Herein comes the plea for the pre-vocational school and the junior high school with a liberal vocational element. It is this element in the training of the adolescent period that gives point to the quotations from "Laddie" in the preceding chapter. The significance of it all is that we are aiming in this period to accomplish as much as possible in acquainting the pupils with the forces at work in nature and in human society about them; to give them some concrete basis for interpretation; and to convey to them the interpretations of history, of literature, of all art, and all human constructive achievement.

In carrying forward such an "intellectual infusion" process there will be opportunity for the transfusion of evil as well as good. Wrong interpretations will occur, leading to wrong conclusions; failure to provide effectively for necessary inhibitions here and there will be another fruitful source of evil; then there are outside contacts with perverted minds and with organized social evils. Unless these things are also cared for, much of the work of instruction and advisement will be nullified. This is only another way of emphasizing the necessity of a clear understanding, on the part of all teachers and advisers, of the moral issues involved and the possible immoral tendencies.

It has been well said that it is quite essential that the school provide for training in "harmless enjoyment," as Parker puts it.[1] The following quotation by the same author from Jane

[1] S. C. Parker, *Methods of Teaching in High School*, Ginn and Co., Boston, 1915.

Addams expresses very effectively the existing situation with regard to this phase of the education of the young: "We have no sense of responsibility in regard to the pleasures of young people, and continually forget that amusement is stronger than vice and that it alone can stifle the lust of it. We see all about us much vice which is merely love for pleasure 'gone wrong' — the illicit expression of what might have been not only normal and recreative pleasure but an instrument in the advance of higher social morality." Taken at its broad significance, this means that avocational training and the normal development of the "play spirit" in man is no more to be neglected with impunity than guidance to proper vocational training. Certainly that individual is doubly armed against vice who not only has a vocation which he enjoys and which brings to him the comforts and satisfactions of life, but who also knows how to use his leisure hours to the furtherance of the higher aims and achievements of life.

The high school offers many and excellent means, when well organized and directed, for the acquisition by pupils of some interests which may become for them avocations. Here we shall probably find greater neglect than in the matter of vocations. As Jane Addams says, "we have no sense of responsibility," even as teachers, with regard to these important issues of life. "The idea is beginning to prevail more and more," says Ruediger,[1] "that education should function not only in the home, in citizenship, in industry, and in business, but that it should function also in those activities that people pursue for the purpose of enjoyment." We talk much to our pupils about music, drawing and design, writing as a fine art, and the drama. But we forget that, without careful instruction, they can have little comprehension of the real significance of these things in human life except for those who are to pursue them as vocations or teach them in the schools.

[1] W. C. Ruediger, "Avocational Guidance," in *The Modern High School*, Johnston *et al.*, New York, Charles Scribner's Sons, 1914.

Ruediger gives four characteristics of an avocation: (1) appeal to personal interest; (2) opportunity for creative or expressive achievement; (3) appeal to the intellect; (4) possibility of individual pursuit. While these are all characteristics which might well be desired in a vocation, they are all ascertainable and might very well be considered as determining what things may be available as possible avocations. The important thing is that the schools be able to give attention to this matter so as to make the pupils aware of the importance of making choice of some avocation which may be pursued with zest as a means of taking good care of leisure moments. Whether the selecting be for a regular vocation or for an avocation, the process will be much the same. It will mean a gradual elimination of those things that are impracticable until the choice is determined.

Perhaps, after all, the chief consideration in this whole matter of selection and guidance is in having a sufficiently wide range of possibilities actually represented in the work of the schools. In this connection an impression received after several days spent in studying the schools of Los Angeles presents itself as a most desirable solution of the problem. In that city there are varying types of intermediate schools and high schools. These all provide for the common essentials for which society maintains the schools. But at the same time they are so organized as to present the widest possible range of activities along lines leading to vocational and avocational selection. Not only are there different vocational courses, but the nature of these courses also varies in different schools — each of the high schools being made to stand especially for some one type of vocational training. Besides this, all the activities of the school are so organized as to contribute readily and continuously to this selective process. As some one has put it, "the organization of the Los Angeles schools themselves is the best system of vocational guidance that could be provided." If, indeed, the school is a counterpart of life itself, as Dewey would

have it, then all these matters of selection and advisement will come along in natural order as teachers and pupils coöperate in carrying on the life functions of the school community of which they constitute the citizenship.

Of a different type, but equally interesting as setting forth the possibilities in this field of selection and advisement, is a method used in a large commercial high school. Here the boys of the two or three upper grades were helped in securing vacation positions with various business firms. They were to receive such compensation as proprietors might consider just, or none at all, as the case might be. But the principal of the school secured from each employer the agreement to write to the principal a full report, at the end of the period of service, setting forth the successes or failures of his particular employee, with probable reasons for the same. On the basis of this information the principal could then proceed to readjust the pupil's training in order to build him up on his weak side, or possibly with the idea of transferring him to an entirely different line of preparation. This was "guidance" of a very definite and intelligent sort.

CHAPTER X

THE INFORMAL LIFE OF THE SCHOOL

As has already been said, the organization and government of a school includes much more than is represented in its specific aims as set up by society. The general social life, which is more or less inevitable in such a group, touches, or is capable of touching, every fundamental interest of life. The weakness of the school in its past history in this country has been chiefly in the general failure to recognize this side of school life and thus make complete its community character.

The well-known tendency toward organization on the part of associated groups, beginning always in a primitive way, furnishes a ready-to-hand key to the situation. This hitherto neglected element, especially in our high schools, may readily become a cause of serious obstruction to the proper functioning of the school if not adapted to the community needs through the general organization, democratically, of all community activities. When we consider the vast and varied interests represented in the school curricula and in the various other normal contacts which the school group represents, it does not appear that there should be any serious difficulty in finding outlets for all its adolescent impulses to action.

This is the great field for organization in the modern high school. It is not merely to provide so many classes in each of the regulation academic subjects and grind through the class work for forty or fifty minute periods covering so many hours a day. It is far more than this, even if we have added a little work "for spice" along such vocational lines as wood and metal shopwork, household arts, agriculture, or commercial work. It may well include all of these; but besides these

and their logical correlations will be all those various ways by which these activities may be made to articulate directly and concretely with the larger life of the school community and also with the life of the larger community outside of the school.

One of the greatest achievements in education was accomplished when Booker Washington, beginning with nothing but the rawest of raw materials plus himself and his devoted assistant teachers and workers, reared Tuskegee Institute. The pupils applied their simple rudiments of science, and built buildings while yet they lived in tents. They learned to convert forest trees into lumber, clay into brick, the rock of the hills into building materials. They constructed a drainage system for buildings and grounds; they mastered the art of producing electricity in order to have power and light; the girls learned not only to prepare meals but also to make mattresses, and to fashion various interior decorations and utilities for the dormitories. The students learned from history and literature how to govern and be governed; how to build up an institutional life based on an intelligent sense of its significance.

Today in that same institution every lesson in mathematics, composition, physics, chemistry, botany, geography, music, drawing, architecture, and civics is closely and intimately related to the life of that extremely interesting and instructive community. To be sure not all can be pioneers, beginning with such primitive conditions. But we may all study to adapt the things we teach to the actualities of life without any risk, if our ideals are right, that we shall thereby degrade learning or hinder its advancement among the children of an enlightened race. Some such thing, only on a higher plane and a vaster scale, Superintendent Francis is trying to do, in a situation far more complex, for the education of children and youth in the city of Los Angeles.

There is no community too small, where there is a completely organized high school, to carry out such a plan of development

through the socializing processes naturally operative, or if dormant made so by unnatural traditions. The chief obstacle to such a consummation in smaller communities is the lack of continuity in purpose, due to the all too frequent changes in principals and teachers. Even this obstacle will be overcome largely when our teachers and supervisors are fully awake to the possibilities of such wider organization of educative forces. One of the first evidences of such an awakening is observable even now in a marked tendency toward greater permanency in the organization of high schools.

It is evident that any such thing as an organization of a secret character among pupils is inimical to the carrying out of such a plan of coöperative community life as we are here contemplating. It is not strange that youth left to itself should turn to this more primitive type of organization rather than to the free, altruistic attitude. There can be little doubt that such organization has had its inception in the failure of school authorities heretofore to recognize the general prevalence of the organizing tendency. This is another result of the too persistent clinging to narrow curricula and the too frequent absence of competent leadership in those placed over the schools. By no means is it true that such organizations, opposed to democratic development, have occurred only where strong leadership was lacking. In many cases this evil has crept in through outside influences in spite of strong and competent principals. The neglect of one careless gardener may cause the dissemination of noxious weeds that well-nigh ruin the best work of the most skilled and faithful gardener in the community. The ability of the strong leader in combating such outside influences will depend for its success largely on the completeness and thoroughness with which he has been able to organize the free and legitimate activities of the school so as to make of the larger social life a complete meshing that shall run through and bind together all the more formal educative processes of the school.

Such a possibility is presented in the field of music and the drama. Both belong to legitimate and essential fields of academic training. At the same time they relate themselves directly and with a strong appeal to the social life both of the school and of the larger social unit. The chorus work in vocal music and the orchestral organization of the high school furnish a fine basis for putting into direct use all the training of the classroom. To these the dramatic possibilities of the school are closely related. This was beautifully illustrated in the case of a certain city high school devoted primarily to agriculture. The English teachers wrote the lines for a cantata dealing with the spirit of country life; the music teacher composed the music for these lines, and then trained his chorus and orchestra so that they were able to present the affair as a public entertainment. Thus music, the dramatic impulse, and local poetic composition coöperated, enlisting both pupils and teachers in what proved to be a very creditable production.

In another high school dramatic art was brought definitely to the attention of the school by the staging of a composition by the principal. In this case the teachers were the actors, but all was as a part of the community interest of the school. The special scenery for the staging of these events was, in both cases, designed and executed in the art departments of the schools under the direction of the art instructors. Illustrations of similar democratic organizations might be multiplied indefinitely.

Closely related to the above-mentioned activities is journalism. Here is offered an excellent outlet for putting into practice English composition and rhetoric, and incidentally the pupils' understanding of social relations and institutional life in an American community. The art department will again have opportunity for work in design and also in illustration. Here also will be an opportunity for some members of the commercial department in the fields of advertising and

business management. To a lesser extent the musical and dramatic work will also serve as a means for business training.

Aside from these coöperative fields the art and design people may well be given opportunity to design and execute mural decorations, tapestries, and many other articles for interior decoration, as well as presenting, through the school publications, criticisms of color schemes in exteriors of public buildings, private dwellings, sign-boards, etc. Along with this and closely allied to it may also come some designing for landscape effects for the school grounds and for other public buildings, streets, or parks.

There will be found many other opportunities for business practice besides those already mentioned. The cafeteria service, the book exchange, the pin and pennant counter, the candy booth, the financing of various school enterprises, will, if rightly managed, furnish much excellent opportunity for the exercise of business tact and the use of such knowledge of technique as the pupils may have acquired in their studies along commercial lines.

Training in physics and chemistry may be made of concrete significance in connection with many matters of sanitation and hygiene. The drinking water may be tested; the milk supply carefully investigated from time to time; the ventilation of school-rooms may become a subject of study. Moreover, the knowledge of mechanics and electricity gained by the study of physics may be applied in practical ways in shop work, especially in the study of machines. For this purpose an automobile repair shop will furnish more extensive opportunity than perhaps any other one thing could do. For the girls, work in cooking will furnish excellent opportunities for applying their knowledge of chemistry. In the home, too, the boys should be able to learn much about the electric wiring of a house and also those facts and that skill in plumbing which directly concern affairs of the household.

In connection with household economics girls should be

able to turn out original designs in dresses and hats, or to take care of catering for special social events in homes of the district. Those of a business turn of mind, besides doing stenographic service for the school, should be able also to manage the buying for the household economics department, to prepare dinners within certain cost limits, to list house furnishings within similar limits of the sums to be invested, etc.

In connection with the study of social sciences there should be organizations looking toward a participation in the civic and economic affairs not only of the school community but of the home community as well, whether in the city or country. To this end the organization of civic centers in the schools of a community will serve as a very distinct stimulus toward such interests on the part of the pupils of our high schools. This may be carried over into religious affairs, where the attitude is decidedly one quite apart from any shadow of suspicion of denominational or sectarian bias. The high school, for instance, which was a center for Y. M. C. A. work, very properly turned over to the students thus interested certain devotional exercises and charitable enterprises springing up in the school community.

The extent to which the fundamental activities of life may thus be set up in the high school, closely correlated with the various subjects of study, and permeating the entire group of teachers and pupils together becomes readily apparent. Yet it should be distinctly noted that this can be no hastily constructed, readymade affair. Such a condition of formal and informal activities in the high school must be a growth. Each step taken in inaugurating such a situation must be characterized by spontaneity, must be the logical response to a real need coming normally out of the conditions of life as there lived. No imported variety will serve; its artificiality will at once become apparent. Its genesis must be in the nature and trend of each given community life where it grows. It

will be the function of teachers, principal, and supervisors to be the skilled gardeners to nourish, protect, and train each unfolding life in accordance with the laws of environment, purposes, and inherent character. And always it should be borne in mind that the school exists primarily to instruct youth.

The following set of rules governing student organizations is in use in the high schools of Grand Rapids, Michigan. It is included here, by permission, as an illustration of good organization in this department of high school government:

Rules Governing Student Organizations in the High School.

I. All organizations composed wholly or in part of high school pupils using in any manner the name of the schools, or in any way connected with the high schools of Grand Rapids, shall be under the control of at least two members of the faculty and an equal number of student representatives from the individual society with the principal or vice-principal as an ex-officio member.

II. The advisory board shall pass upon all matters involving the general policy of the organization and shall supervise the work of each society, using their influence in such a way as to avoid all objectionable features and to guide the members in developing higher standards of social efficiency.

III. No pupil shall be permitted to hold office or to become a candidate for office who is not eligible under the following rule, viz: that he or she shall have passed fourteen hours of work the previous two semesters and be carrying fourteen hours satisfactorily during the semester of candidacy for office.

IV. No pupil shall be permitted to hold office in more than one society at the same time, nor to serve in more than one executive capacity at the same time without the special approval of the principal of the school.

V. No pupil shall be permitted to belong to more than two organizations at the same time.

VI. No pupil may hold membership in two organizations of the same class.

Classification Adopted by the Student and Advisory Councils.

1. Girls' Clubs — Sorosis, K. E. E., Girls' Literary Society, College Club, Travel Club, Fauna and Flora, Good Cheer.

2. Boys' Clubs — Goodfellowship Club, Cavalier Club.

3. Each of the following constitutes a class by itself: House of Representatives, Wireless, Sock and Buskin, Camera, French, Art Club.

4. The following organizations are exceptions to the rule: Boys' Leaders Club, Girls' Leaders Clubs, the Junior Association of Commerce, the several Athletic teams, and the Musical organizations.

VII. The teachers on the several advisory boards constitute the Advisory Council of the school.

VIII. The presidents of the several high school organizations together with one boy and one girl, not members of organizations, from each of the large session rooms constitute the Student Council.

IX. To be eligible to membership in any high school organization a student must have passed fourteen (14) hours of work the previous semester, or if less have been elected, all must have been passed. In the case of ill health or some other reason accepted by the principal or vice-principal as equally good, this rule may be waived. A member of an organization failing at any time to pass at least fourteen (14) hours of the work being carried (or all if less have been elected) shall be liable to suspension from the organization until such time as his work be considered satisfactory by the school administration.

Party Regulations.

1. Not more than one formal party shall be given by any one club or society during a semester.

2. The cost of the party shall not exceed fifty cents for each person present.

3. All parties shall be chaperoned by at least two teachers and two parents.

4. In decorating for parties, no tacks nor stickers shall be used, nor shall anything be done to injure the walls or building.

5. Before plans are made for parties or other social functions the advisory committees shall meet with the principal or vice-principal to arrange details of dates, invitation lists, etc.

6. All parties, dances and banquets given by school organizations shall be held in the school building unless otherwise permitted by the administration of the school.

7. All parties are to close at eleven o'clock.[1]

New Organizations.

I. Any organization or proposed club desiring recognition as a school activity and entrance to the school councils, must first receive the approval of both councils by a majority vote of the membership of each council.

[1] A revision of this rule is now pending. Until further notice it will be enforced as here printed.

Meetings.

II. The meetings of the school organizations shall be held in the school building unless otherwise granted by the school administration.

Loyalty.

III. Each organization shall embody in its constitution or membership pledge a statement of its allegiance and loyalty to the social policy of the school as expressed by the acts of the councils and the school administration.

IV. A copy of the constitution of each organization shall be filed with the principal and kept up to date as regards corrections, additions, etc.

CHAPTER XI

MATERIAL CONDITIONS

Closely related to the successful management of a high school are the material conditions and resources with which it is provided. Under this head may very properly be considered the building and grounds; special features in the internal arrangement and equipment; general contributory conditions of a material character in the surrounding community; and, last but not least, the provision — actual or possible — in the way of financial support. It may readily be assumed that society, represented in the population of the unit of control which the particular high school or system of high schools is intended to serve, is to provide reasonably adequate conditions. Nevertheless the head of the school or system, as the educational expert of the board of education, should be ever watchful to see that no material condition necessary to successful management and within the power of the board to provide is wanting.

Granted adequate means for maintenance and development of the school, the one most vital consideration in material equipment is the school building and its setting. The last quarter of a century has witnessed a veritable revolution in the character of building and grounds required for the complete and effective operation of a modern high school. Formerly a building with a study hall and classrooms for as many recitations as there were teachers was all that was necessary. The work was all practically textbook work with alternating periods for study and recitation. All the ground considered necessary was a fairly good setting for the building with a limited "playground" space around it.

Now the high school has developed into a very composite affair. The activities of the school, both indoor and out, have been greatly broadened and extended. Inside there must be not only study halls and recitation rooms, but also laboratories, shops, drawing rooms, library, music room, gymnasium, and swimming pool. Without there must be room for gardening and soil experiments and athletic sports of all kinds, as well as a good setting for the building or group of buildings. As suggested in Chapter III the size of the grounds is now to be computed in acres instead of in feet.

As a second result there have developed two types of treatment for housing the modern, composite high school. One is to include all under one roof — a feat which, after much architectural planning under advisement with the best educational experts, seems thus far to have practically defied completely satisfactory accomplishment. The second treatment is to break the work of the high school into two or more units as a basis for the construction of buildings. Under this second plan the buildings may be either distinct or grouped and connected, with the tendency in present practice to favor the latter. The treatment by distinct buildings seems more in the nature of a compromise where space is lacking or where it is desired to utilize an existing structure for one or more units of work to be undertaken.

Where the intermediate or junior high school type has been adopted, the plan of building and also the question of location or distribution become matters for consideration in a way rather distinct from either of the considerations suggested above.

The plan of two or more separate buildings with differentiated work is illustrated in many instances in our more progressive cities which have traditional high school conditions to reckon with. The group structure, on the other hand, appears most frequently in southern California. An interesting tendency toward its adoption is also seen in the some-

what rapid development of the township high school system in the state of Illinois. The New Trier Township High School, Kenilworth, Illinois, the Joliet Township High School, the LaSalle-Peru Township High School, the Hall Township High School at Spring Valley, and the Belleville Township High School now in process of construction are interesting examples.

In some instances, in the East and South, we find the high school buildings separate in location and structure because of the practice, seemingly not on the increase, of segregating the sexes in high school.

It will readily be seen that the practice of constructing buildings separately or in groups belongs to the larger centers or to the larger high school districts of more sparsely settled areas, as in case of township, county, or union district schools. For the small district the one-building plan will readily suffice. Approximately we may say that unless a high school enrolls at least eight hundred to a thousand pupils one building may be made to serve the purpose very well, although a school of five or six hundred, or even three hundred, might find some advantages in management with two buildings. In fact, if the size of the grounds should permit, it may be a matter of economy, in the long run, for schools of this size to have cheaper one-story structures for the shop work and all kindred exercises. It will be found easier to regulate light and heat suitable for those departments where most of the work is of a physical nature than in the compact structure which undertakes to include all under one roof. Buildings thus constructed should be connected with the main structure by means of roofed arcades to protect pupils in passing in inclement weather.

Mention has already been made of the change of practice as regards the size of the school grounds. Here again much depends on what the school will undertake to do. For the purposes of this discussion let us assume a truly cosmopolitan

high school, providing the typical vocational lines of instruction as well as all academic courses, and certainly not omitting any of the most approved facilities for physical development. With such conditions it will probably be found desirable to furnish grounds for out-of-doors games and sports for both sexes. Such grounds should include a running track, tennis courts, space for baseball, football, and other field athletics, and possibly out-of-doors swimming pools. The space should be sufficient to permit of activities by the maximum number of pupils who would desire or be required to participate.

Then there would doubtless be needed some space for practical horticulture, and probably also for experiments in soil treatment for field crops. Possibly a poultry house and yard would be desired. Much would depend upon the location as to the nature and amount of work of this order to be provided for.

Thus it readily appears that nothing short of about five acres of ground should be considered sufficient for the work of a high school enrolling more than three hundred pupils. And this ground should be chosen, as far as possible, so as to be readily available for the uses above noted. Further, the plans for completing the building project should include the proper laying out, preparation, and equipment of these grounds for the purposes contemplated. Much, if not all, of this latter work should be done by the school as a part of the community interest which it represents, and as one of the best possible means for accomplishing the work of education along the lines for which the grounds and their equipment are to provide. If such preparation or equipment involves the outlay of funds, this too may be taken care of chiefly by the school. Such an undertaking may furnish an excellent opportunity for a lesson in community or civic coöperation. Subscriptions of stock may be made by pupils, teachers, and friends of the enterprise sufficient to meet all expenses, while rentals or gate receipts on special occasions will make possible the pay-

ment of dividends to stockholders. This plan will give an excellent opportunity for concrete business practice.

There will also be special features in the way of internal arrangement and equipment on which the head of the instructional work and his assistants should have a hearing. Perhaps it is not stating it too strongly to say that these should first of all furnish a somewhat detailed inventory of what special features for the various departments of high school work should enter into the construction of the building or buildings before the architect is given the problem, with the distinct understanding that these features in their essential characters are to be incorporated in the plans and specifications. If such a course is not pursued, in nine cases out of ten there will be found omissions or maladjustments here and there, after the building is completed, which will greatly handicap the work of the school. Only in those rare cases where the architect has made a special study of high school construction, including internal arrangement, will it be safe to leave all planning in the architect's hands; and even then the plans should be carefully reviewed by the educational expert of the high school before final adoption. The same also may be said of the plans for the laying out of the school grounds. In both these physical aspects æsthetic values should be sought as far as possible, but not at the expense of convenience and effectiveness in the pursuits of the school.

Among the special features of the interior of the building, aside from assembly and study halls and ordinary recitation rooms, the following particulars may be mentioned:

1. The heating and ventilating system should be adequate, with automatic regulation of temperature. Humidity should also be taken care of.
2. Closely allied to this is the perfecting of means for the safe and sanitary disposal of all waste, and the removal of dust from all rooms. For this latter purpose a vacuum cleaning system should be included in the construction of the building.

3. Laboratories should be provided, with specially constructed tables, cases, etc., for physics, chemistry, biology, geography, agriculture and domestic science, or for such of these as are to be included in the curricula of the school. Attention should be given to the arrangement of these rooms with reference (*a*) to lighting facilities in relation to the work to be done; (*b*) the use of one or more central lecture rooms, with or without the lantern; (*c*) the provision of water and drainage, gas, the elimination of fumes and noxious exhalations, proper preservative facilities, and insulation of combustibles.
4. Rooms suited to the various departments of manual arts work: (*a*) For drawing, modeling, and color work, with special attention to lighting; (*b*) for sewing, millinery, and household decorative work; (*c*) for wood-shops, including bench work, lathe work, cabinet and carpentry work; (*d*) for metal, forge, and foundry work; (*e*) for machine work, plumbing, and electric work; (*f*) for automobile repair work; (*g*) for bookkeeping, stenography, and typewriting; (*h*) for printing and binding. Again the number of these to be provided for will be determined by the curricula.
5. A suitable place for class work in music.
6. A room for library purposes, conveniently located and well lighted.
7. Gymnasium and swimming pool, with dressing rooms and lockers, showers, drying room, etc.
8. Retiring rooms for teachers and pupils. Also special club rooms for meetings by pupils or social groups of adults.
9. Probably, also, rooms should be provided for cafeteria lunch service, including kitchen, lunch room, and serving boards or desks.

Always the measure of what should be undertaken should be the financial ability of the district together with whatever may come by way of state apportionment or state subsidy for the support of any or all the above types of activity. In the case of the intermediate or junior high school organization, the general plan of the building should be similar to that outlined above, although not so extensively equipped in the department of manual arts and laboratory work in science.

There will also be certain general contributory conditions in the community, the utilization of which as auxiliary to high school work will become a factor in the management of

a well-organized school. Among such contributory conditions will be the following: (1) the public library; this should become a source of great helpfulness to the high school; (2) various factories, power plants, and other complex organizations for industrial or civic purposes; (3) the local business houses and departments of local government; (4) the natural conditions and environment; (5) the local press; (6) various organizations for social or civic betterment. Each and every one of these is capable of being made to contribute directly and in a very stimulating way to the various lines of work carried on in the high school. The principal should study ways and means of utilizing them. The entire teaching corps may be brought into the work of helping to make these really available sources, and increasing their usefulness through cultivation.

CHAPTER XII

THE DAILY PROGRAM OF EXERCISES

A VERY vital element in good management is the adjustment of the daily school program to the varying needs of the school. The larger the school and the more complete its program of studies, its social organization, and its community character, the more complex and difficult is the problem presented. The first and most fundamental features to be adjusted will be the length of the high school day and the single or double session. As a part of this latter feature, the question of the luncheon hour will be included. In the small high school, where few class sections are necessary, the problem is relatively simple provided the number of teachers is made to correspond reasonably well with the number of courses offered or likely to be elected. Even here, however, the seven or eight-period day will be found usually to give most satisfactory results.

It is in the large, cosmopolitan high school that the problems presented become most acute. Time must be found for the longer laboratory and shop periods as well as for the innumerable class groups for prepared subjects; for the music and physical training, the drawing and art work; for study, consultation, and library work. Then there will be days and evenings for special organization programs or for social events and field athletics. It seems evident that a full day is required, or at least seven periods, in order to make provision for all that the school should care for during its working hours.

The length of periods should be forty-five to fifty minutes, not allowing for a supervised study scheme. For all unprepared work — as in laboratory science, shop work, sewing, drawing, bookkeeping, stenography, and typewriting —

double time should be required for equal value or credit. This is assuming that each subject requiring preparation outside of class, whether supervised study or not, will require at least a period (forty-five or fifty minutes) of time for preparation. In case of a supervised study plan it is possible that the period might be abbreviated and still be equal to unsupervised work; however, the work where study is supervised for a full regular period will be likely to show greater gain for the pupil and consequently a better grasp and more rapid progress on his part in mastery of the subject in hand. This is the plan adopted by schools where some of the best results are being obtained through using the plan of supervised study.

There are conditions also affecting the order of arrangement of subjects for recitation or for such exercise as the nature of the study may require. There are pretty clearly defined periods of relative freshness or fatigue which may well be taken into consideration in the order of arrangement, especially of the individual pupil's schedule; and every pupil's schedule should be scrutinized carefully and any necessary readjustments made, if possible, before final approval is given to such schedule. For periods of relative fatigue in study the exercises requiring a large degree of motor activity will be found most desirable. The subjects most complex in character and therefore requiring concentration of thought and the exercise of the power of close analysis should be given the periods of relative freshness of the mental powers. The morning hours seem to be most favorable for the severer mental phases of school work, while work that is largely automatic is found to be less fatiguing than that requiring continued and close attention. Generally speaking, therefore, the work that is less exacting should be arranged for the afternoon periods.[1]

[1] See Colvin, *The Learning Process*, Macmillan, New York, 1911, Chapter XVIII.

The daily program must provide for both recitation and study. Strangely enough the part which is most difficult and which, when well directed, educates most — the study period — has been most neglected. Many books have been written on the art of conducting recitations, but very little of value has been written on the art of teaching how to study. For pupils of high school age much of the studying has been done at home, often under circumstances most unfavorable. Comparatively few homes are arranged in a way calculated to facilitate study or can even provide a place where the student may work undisturbed. Hence there has arisen the problem of directed study in high schools.

If we consider the case more in detail the necessity of more careful supervision of this side of high school education becomes more and more apparent. In the elementary school the work has been largely drill work, which requires little direction, but rather urging to persistent effort. Transferred to the high school the pupil finds himself confronted by numerous demands in the way of study with which he is unfamiliar. The subjects are mostly new and different, whereas in the elementary school the same lines of work were pursued from year to year. In the high school the textbook is a small part of the equipment to be used. There are references to various unfamiliar sources of information. The pupil has had some acquaintance with the dictionary, but even that holds secrets in usage which he must learn to comprehend; there are encyclopedias little known; special works to be consulted on history, mythology, art, and literary criticism; laboratory apparatus to be manipulated; note-books to be kept according to certain form; extensive work in composition to be prepared with little of past experience to help; mathematical problems and nomenclature that are all new, the languages of strange accent and unknown vocabularies — all to be mastered in classroom and at study.

Viewed from another angle the situation that reveals itself

is that of one in a group of twenty to thirty in class, with a teacher whom the pupil does not know, and who cannot know the pupil or his needs. The period is full for the teacher, too full to admit of anything akin to personal work with individual members of the class. Yet lessons are to be assigned for study, with such brief comment, half understood, as the teacher feels justified in taking time for from the brief recitation period. By dint of a seat chart of the classroom for each recitation she is trying to associate names with faces which she looks for in given locations to which the "names" have been assigned. Once each day this teacher has charge of a "study room," but most of her pupils are at work in other classes. The exigencies of program-making have made it impossible to arrange matters so that she might be with the pupils of her classes at least during this brief period. Does it not speak volumes for the persistence and the initiative of American youth that, under these circumstances, so many come through so well?

Various tentative measures have been tried in the past by which to correct this error in organization and prevent the fearful waste which it entails. We have had the Batavia and the Pueblo plans for individual work; the plan of seating pupils of a given subject in one study room and having at least one teacher of that subject in charge has also had its day. But more promising than either of these seems to be the "supervised study" plan of the present. This method of dealing with the problem has been adopted very generally in larger schools of various sections of the country. Indeed, it may be said that, as a plan, it is no longer an experiment, although it may be true that in some of its aspects it is still subject to experimentation. It is a plan which may readily be used in the intermediate school or junior high school as well as in the high school as ordinarily organized. If effectively used it will doubtless mean an increase in the teaching force of most high schools. It is practically certain

that it will require an eight-period day for its successful operation.

There are various practices as to the length of period involved for recitation and study. The general plan of holding a class under the same teacher for the entire period consumed by this double purpose is the common practice. In some instances the time is unequally divided. The length of the combined period also varies from about fifty minutes to one hour and a half. In the latter case the day is usually divided into forty-five minute periods and each teacher holds her class for the two periods, usually equally divided between study and recitation. With some schools this plan is continued throughout the entire four or six years of high school — six where the junior high school is organized. In other cases it is carried only through the ninth and tenth grades.

In respect to the grades included and the length of periods the plan in use in the Joliet, Illinois, Township High School, under the supervision of J. Stanley Brown, seems to present most points in its favor. Under this plan, which has been in operation for a number of years, only the ninth and tenth grades are included. The reason for this is that it is felt desirable to train the pupils as early as possible to be able to direct their own efforts in study. Otherwise they will be likely to come out of high school still helplessly dependent upon the direction of the teacher whenever any new subject of study is to be undertaken. This method of treatment seems well calculated to arrest any tendency to overdo the helpful attitude on the part of the teacher — a danger always present where supervised study is in use, and likely to produce even a worse situation than the evil which the plan is intended to cure.

The double forty-five minute period is also used in the Joliet school. This makes all the periods laboratory periods; and as the science laboratories, shops, and drawing rooms are operated on this double-period plan no confusion is caused

in the working out of the day's program for individual pupils who have done some form of laboratory work. It is needless to say that these regular double periods for unprepared work in laboratories, etc., remain unchanged. In using this period of ninety minutes, the teachers are instructed to vary the division of the time somewhat, as the nature of the work in hand may seem to require. In this way the difficulties of preparation in the case of pupils who have not had previous opportunities in well-ordered schools, or who find some peculiar handicap in a new subject, are quietly and effectively removed.

It will readily appear to the experienced teacher that there would be some new things for the teacher herself to learn under such a system. The lesson preparation would be made with this new object in view. There would need to be thoughtfulness as to method of approach in certain individual cases. Most of all, there would be the problem of learning how to help in such a manner as to develop in the pupil self-helpfulness instead of a supine dependence. There would be times when evidences of fatigue would give the signal for a halt and a change in the entire procedure. There would certainly be the need of thorough, first-hand familiarity on the part of the teacher with all the accessories of study in the way of reference works, source materials, etc.

There is great need of a more definite consideration of the factors and conditions which enter into the study process and the methods by which the individual is to be able to acquire definite controls, so as to make these factors usable or contributory to his work in studying. These factors may be classified as (1) familiarity with material accessories; (2) drill work; (3) habit formation, especially in giving attention, in concentration, and in celerity; (4) thinking, which involves ability of close analysis. Most high school pupils need to be taught how to use a dictionary, a glossary, and an encyclopedia. Much time, worry, and failure may be saved by taking

this need for granted and proceeding patiently to give the required instruction. At first, also, when assignments or references to other works than the text are made on a given lesson topic the pupils should be led by a few well-chosen illustrations to see just how to get at the things that are especially desirable as throwing added light on the questions under discussion.

They will need to understand the difference between a drill exercise and a lesson which calls for thought and careful analysis, so as not to mistake mere memory work for thinking. Otherwise the result in such a case would probably be a rote recitation in the words of the text where a principle should have been evolved or an event assigned to its proper category as a result of having thought through a given paragraph or chapter. In order to impart this understanding the teacher will need to give numerous illustrations pointing out clearly the difference between the two forms of preparation and emphasizing the need of such clear distinction. This will involve also a good understanding of the uses of textbooks in preparing lessons. If the lessons are assigned topically or from a syllabus, the teacher should make sure that all pupils are informed as to the use of the book's index and table of contents. In all this work pupils should be taught to keep in mind the necessity of distinguishing between that which pertains to the subject under consideration and what is entirely irrelevant.

The foundation of right study habits and their relation to successful work should be a subject for careful instruction and guidance. One very important habit is that of keeping regular hours for study. The regular recurrence of the attitude of study will tend to facilitate its resumption at such periods, and will thus make it easier to direct the faculties to the task in hand. Another equally important habit is that of celerity in handling materials and also in reading. If a word is to be sought in a lexicon a habit of celerity in turn-

ing to the proper alphabetical notation will greatly facilitate such work as that of translation in study of a foreign language. To the same general advantage celerity in the use of all reference material will contribute. Likewise swiftness of execution, yet with attention to good form, should be inculcated in all forms of written work.

By far the most important need of readiness and quickness of action will be in the pupils' habits of reading. So much of really essential material has accumulated in printed form that any individual who reads and grasps the meaning of what he reads slowly will find himself often seriously handicapped. This same principle applies to oral work in reading and to oral recitations. The quickness and readiness with which one speaks is often looked upon as an index of his quickness of thought. Pupils should be urged always to learn by constant practice to read rapidly and yet understandingly.

There are also habits of attending and of concentration to be acquired most successfully under skillful direction. This has reference chiefly to the deliberate choosing of what one is to do under the circumstances; it means the development of a certain force of will which makes possible a ready adjustment to the work to be undertaken and a steady holding of the mind to the task. In order to become effectual as a factor in study, this act of adjusting oneself, or concentrating one's mental energies, needs to become habitual. It is clearly a thing to be acquired by practice, and the teacher who understands the conditions may do much in assisting pupils to acquire such a habit. There are few situations, in this respect, to which man may not accustom himself; but a little thoughtful direction will greatly assist the young, who know little or nothing about the laws of habit formation.

If in addition to the above conditions for successful study, the pupils are directed in the thinking process, then we shall have cared for all the important factors in teaching how to study. It is true that pupils, if they possess normal mental

ability, should be able to think; but that is a different thing from voluntarily applying the process in gaining knowledge from books and lectures, or from observation and experimentation. We read a chapter in a book, yet we may not have thought that chapter through. We listen to a lecture or a sermon, we may even be able to quote from one or the other, and yet not have the thought of the speaker in mind at all. A pupil in the laboratory may observe phenomena or carry through automatically an experiment; but when it comes to the statement of any derived principle or conclusion he may be entirely at a loss. These are processes to the comprehending of which many, perhaps most, pupils must be led. The reason is that they are just learning to conventionalize a process which has heretofore been spontaneous and more or less irregular or incomplete. There is a sense in which they must be taught the *logic* of thinking. One of the most effective ways of giving this kind of training is to require frequently the expression of the thought by the pupil in his own words. This method may be applied to what is read, to the lecture, or to the reasoning and results of an experiment. Usually the written form of expression will be best, as it will enable the teacher and pupil to consider more clearly the degree of fullness and correctness of thought attained in the exercise.

The development of the ability of clear thinking applied to the acquisition of knowledge is one of the greatest arts of the school and of the skillful teacher. This power to think should be accompanied by and include the ability of close analysis. This ability to think, to analyze clearly, may or may not be acquired spontaneously and without direction; but more will acquire it and in better form through proper discipline. And this is one of the greatest needs. If we listen to recitations of high school pupils who are dealing with content materials, such as history or science, we shall find it exceptional, rather than a common occurrence, if they are able to show that comprehensive view of a problem to be gained only by complete

analysis. How seldom, for instance, do you find pupils in botany or zoölogy showing that they are really able to follow through an inductive process of thought and announce a definite and logical conclusion.

There is also a certain technique to be acquired even in recalling past experiences, either as a basis for the interpretation of the new or for the purposes of synthesis by which the new and the old are to be organized. These are all matters to be considered in the preparation, by the teacher, of the exercises to be employed in instruction; and there should be a certain parallelism in the preparation of the pupil. It is safe to say that most teachers are themselves unaccustomed to any such analysis of the subjects they teach as would correspond to the above analysis as a basis for teaching how to study. And this is doubtless why we know so little, or have made so little progress in this very important phase of the day's work in the school.

Perhaps all this sounds to some like a return to the idea of formal discipline. If so a careful analysis of what has been said under the general topic of teaching how to study will be found to conform to what those opposed to the broad application of the formal discipline theory are usually willing to concede as transferable.

In speaking of the eight-period day, let it not be supposed that each teacher is to be in classroom or laboratory with a class before her for all of the eight periods. In this respect the school day of the teacher is not to be confused with that of the pupils. For the latter fully half of the periods will take the place of preparation. With the teacher all preparation must come outside of the classroom. Five periods a day devoted to class or class and laboratory work, or six periods a day to class and supervised study work are all that any high school teacher should be assigned, with some possible exceptions in work like physical training, supervision of typewriting, mechanical drawing, or shop work. The

teacher's schedule of classes should be arranged, as far as possible, so as to give rest periods at the points of greatest probable fatigue. In the case of such work as English composition, either the week's work for such teachers should be shortened, as far as class work is concerned, or assistance given in the reading and criticism of themes.

The broad scope of work of the modern high school makes necessary a wide range of election. This includes not only a larger number of subjects to be provided for within the range of the six to eight periods, but also, frequently, the extension of a subject election over two or three grades of the high school. As a result there will inevitably be a large number of conflicts in adjusting the schedules of individual pupils. The increased number of sections of the larger schools tends to alleviate this difficulty somewhat. But in any case conflicts will arise. As far as possible, therefore, it is desirable to confine elections of given subjects to particular grades. There is noticeable a marked tendency, in schools strongly vocational, to increase the length of the school day so as to admit of placing vocational exercises outside of the periods assigned to academic work. By this means conflicts are reduced and the pupils get their vocational exercises outside of the hours of academic study as they formerly did before the present industrial conditions made such outside work impracticable.

With forty-five or fifty minute periods it may be found both practicable and desirable to reduce some subjects to four periods per week of recitation work for pupils. Such an arrangement will greatly facilitate adjustments with reference to teaching hours. These put on a week-basis, under the suggestions given above, would mean twenty-five to thirty periods per week. Thus seven periods per day for four days would give to the teacher a total of twenty-eight periods per week.

There will still remain the special-feature programs, such as literary and musical events, special lectures, and general educational exercises, to be taken care of. These should

naturally be dispersed in such a manner as not to interfere seriously with the regular work of the school. They are a legitimate and necessary part of the social life of the school and should be given place, but in such a manner, as far as practicable, as to make an equitable subtraction of time from the different subjects in the regular daily program of work.

CHAPTER XIII

SCHOOL ATTENDANCE AND SCHOOL RECORDS

ATTENDANCE at high school is largely voluntary or in accordance with parental control. In twenty-three of the states compulsory attendance legislation does not extend to the high school period. The following shows the prevalence of extension of compulsory attendance beyond the age of fourteen: To fifteen years, Maine, Rhode Island, North Dakota, Nebraska, Kansas, West Virginia, Washington, Oregon, California; to sixteen years, Vermont, Connecticut, Pennsylvania, Ohio, Illinois, Michigan, Minnesota, Iowa, Louisiana, Arkansas, Oklahoma, Colorado, Arizona, Utah, Nevada; to eighteen years, Idaho. The lowest upper limit is twelve years. Thus we see that attendance through the intermediate school would be provided for by all the states extending the period beyond fourteen years, while fifteen states set the limit one year above that, and one state would include all of the twelve grades. It would be a great gain for education if all the states could come up to at least the fifteen-year limit, thus taking care of all the grades in the junior high school or intermediate stage of secondary education. There is no legal sanction, as yet, for the junior high school or intermediate school as such. But in a number of states the law providing for the establishment of schools leaves the matter of grades to be established, and also the organization of the school, to the discretion of school boards.

For many years attendance has been affected by the charging of a tuition fee of non-resident pupils. This restriction has been largely eliminated by recent legislation. According to the most recent data available, eleven states still permit a

tuition charge. In all other states the tuition is made free either by state subsidies or by providing for payment by the home district in which no high school privileges are provided. In nearly all cases, however, attendance beyond school age requires that tuition shall be paid.

Several incentives to larger attendance have been added through readjustments in curricula that have been made in recent years. A special advantage is seen, in this respect, arising from the introduction of the junior high school. Such statistics as are available seem to indicate that there is a marked increase in the numbers of those who go forward in high-school work as compared with conditions existing under the old régime. One reason for this is the broadening of the scope of the curriculum for these junior years and also for the senior years of high-school work. The greater amount of attention given to the vocational interests of the young is also a powerful incentive. Added to these is the more liberal provision made by school authorities for the general activities of the school. Among these are the social activities, interest in music, and athletics. It not infrequently happens that some of these, and especially athletics, where certain conditions of participation are fixed, become the means of saving pupils from complete failure.

Attention has already been called, in an earlier chapter, to the relatively great increase in high school attendance. The following tabular statement giving the enrollment in public high schools for each year for the decade 1903–04 to 1912–13 is indicative of the steady and rapid growth which has characterized high school attendance in this country:

Year	Enrollment	Year	Enrollment
1903–04	635,808	1908–09	841,273
1904–05	679,702	1909–10	915,061
1905–06	722,692	1910–11	984,677
1906–07	751,081	1911–12	1,105,360
1907–08	770,456	1912–13	1,134,771

One of the most remarkable features in this increase is undoubtedly the number who attend by reason of the enactment of free tuition laws who could not otherwise do so. The significant point to this fact is that a large percentage of this increase is from the rural districts where, as a rule, no high school facilities exist. These pupils are, generally speaking, a selected group, and in a large number of cases their attendance at high school means a preparation for college.

Like all conservation movements the great concern now is to prevent loss through absence. If it is desirable for states, as a measure of public protection, to pass compulsory attendance laws, it is still more desirable to prevent, as far as possible, loss of time through enforced or voluntary absence. Ordinarily, in a well-managed system, truancy will have practically disappeared by the time high-school grades are reached. The chief causes for absence will then be (1) illness, (2) home duties, (3) social demands, (4) failures. With regard to illness, the establishment of health departments with efficient medical inspection is doing much to reduce its effect on attendance. This is accomplished by preventing the spread of epidemics, by free clinical service, and by providing for sufficient recreation. In the matter of home duties the problem is more difficult. Even here, however, the arrangement of part-time schedules may accomplish much towards preventing loss. It may even be found desirable to give credit toward graduation for certain forms of home work when conducted in such a way as to develop needed "controls," as is now being practiced in some schools. But this, if undertaken at all, will need to be done with great discrimination.

On this matter of loss to education through economic conditions it would be entirely in harmony with the attitude of society in other matters if some provision were made for subsidizing individuals. Of course it would have to appear (1) that the fact of need was established beyond doubt; (2) that the pupil was intellectually capable of advancement and

morally sound. The amount to be paid in such cases should be based on the earning capacity of the pupil plus the direct cost of schooling. We do not hesitate to spend large sums of money in trying to make the feeble-minded child self-sustaining. How much more should it be society's care to see to it that capable boys and girls have equal opportunity with their fellows in spite of an economic handicap. In one of the Los Angeles high schools a fund is produced, through the general activities of the school, from which loans may be made to deserving indigent pupils so as to permit them to complete their high-school work. Of a similar character, but a little more advanced, is the recently announced movement by the alumni association of the high school of a Wisconsin city, by which it is proposed to establish a loan fund from which loans to the extent of $800 to any individual may be made to graduates of the high school who desire to complete a college course but lack the funds for doing so.

The third cause of absence mentioned is that of social demands. These cases usually arise in families that are well-to-do, or at least fairly so. It is the daughters, chiefly, who suffer. Here, again, unless parents will coöperate with school authorities, part-time schedules should be insisted upon. This would postpone the date of graduation for the individuals concerned, but it would also place responsibility where it belongs and eliminate any possible temptation to consider extenuations in making up scholarship records. It is just as important to the state, perhaps more important, that the children of the rich be made as intelligent as possible, as it is that the children of the poor become well trained. For the former are likely, through inherited wealth, to be required to carry heavy additional obligations because of their wealth. Then there is, in this particular phase of the problem, an ethical factor which involves nothing less than that of fair dealing and the granting of equal opportunity as expressed in pupils' school records.

The fourth cause, that of failures in studies, offers a problem of peculiar interest. It has a bearing on several important features of school organization and government. The failures may be due to lack of ability or preparedness for the work; to lack of interest; to incompetent instruction; to a maladjustment in schedule or curriculum; to low vitality or actual ill-health. A careful study of such cases by teachers and principal should lead to an early discovery of the cause and the speedy application of a remedy, if such there might be. It will be seen that in some particulars this cause of absence is definitely related to that of ill-health. The mistake is too often made of letting a case drag along for months or semesters without any special effort, simply taking the situation as inevitable and beyond the responsibility of the school. Hence it is that each case of failure should point back to the details of organization that are most likely to be involved and should lead to a close scrutiny of each element and each point of articulation in the entire scheme. In all aspects of this problem of attendance the advisory function of the school should be made a direct and helpful factor.

The keeping of records of high school pupils bears a close relationship to the matter of attendance. These records should include: (1) attendance at school and in class; (2) scholarship; (3) general conduct and spirit; (4) analysis of special capabilities as related to vocation or profession; (5) physical training and health. Some one in the organization of the school should be charged with keeping the pupil's record of attendance at school, and the teachers should keep attendance records for their respective classes which should, in turn, be checked in comparison with the school attendance record. In cases of class absence not thus accounted for the teacher should be notified of the fact and should ascertain the cause. The teacher's class record of attendance should then readily distinguish between school absence and class

absence, and in cases coming under the latter the causes, if learned, should be recorded.

The scholarship record should aim to keep as close an estimate as possible on the pupil's progress from his point of starting. In order to do this some records will need to be made of a more specific character than those expressed in per cents or by means of letters. These records should be summarized and entered in a permanent record at least twice each year. For keeping this permanent record either a card or loose-leaf system will be found desirable. The latter form seems to be preferred. The record scheme on the card or sheet should admit of a presentation of all facts, in summary, called for under the five points given above. It would be a great advantage to pupils if the high schools, at least of a state, and it might be of a whole section of states, would adopt a uniform size of card or sheet and with practically the same items of record provided for. These items might vary a little sometimes in form and import; but the size and shape of card might remain always the same, thus facilitating transfers of records in cases of pupils more or less migratory.

In the keeping of scholarship records especially, care should be taken to adopt a scheme of marking or grading that shall eliminate, as far as possible, eccentricities of grading among teachers, when grades are considered comparatively. The method of group ranking [1] is worthy of careful consideration in this connection. Some attention should also be given to records of special accomplishments by pupils, as in debate, competitive declamation or essay work, musical and dramatic accomplishment, or work in art and design or construction.

Along with the scholarship record, and in synchronous relationship to it, should come the record of the pupil's general conduct and spirit in class and as a member of the school community. This should not necessarily mean as a basis for

[1] See Hollister, *Administration of Education in a Democracy*, Charles Scribner's Sons, New York, 1914, pp. 338–40.

imposing penalties, but rather as a basis for gauging the pupil's normality of reaction to his social environment and to his curriculum. Such a record should be specially helpful in all matters of advisement with regard to vocational or avocational training.

When a pupil enters the intermediate school or high school, a careful physical examination should be given and a record made of the results found. Subsequent examinations should be recorded at least once a year; and during the intervening time records should be made of all cases of illness, sub-normal vitality, and injuries from accidents. In preserving such a health record it will doubtless be found advisable to keep a separate card or loose-leaf system. But this record should be always available in judging a pupil's work and in advising him with regard to his future work in school or later.

Of special importance to the principal, as well as to the superintendent and board of education, will be a well-kept record of teachers. For this a card system will doubtless be found most satisfactory. The following items should be matters of record with regard to all teachers and supervisors of a high school:

1. Date of first employment and terms of contract.
2. Qualifications and experience up to date of first employment.
3. Efficiency record:
   (*a*) In class work; (*b*) in charge of study hall; (*c*) in social work; (*d*) in general professional spirit; (*e*) in promotion.
4. Professional improvement record.
5. Health record.
6. Termination of contract — date and cause.

Such a record will be found very valuable in recommending promotions, in answering inquiries from other school officials, in advising with teachers as to the best use to make of leisure time, especially with reference to vacations. In a certain sense, also, teachers are themselves justly entitled to such a record; for with it, even though superintendents and prin-

cipals may change, there will always be available a reliable record of past work.

A third class of record which a well-organized high school should keep is a financial record. In other words, the school should adopt a regular system of accounting, simple but effective, and where possible should enlist the services of pupils taking business courses as a means of business practice on their part. Such an accounting system should include all such items as (1) the financing of social events; (2) receipts and expenditures for special literary or musical programs; (3) business management of cafeterias; (4) athletics; (5) business transactions of all special committees, such as those to procure class pins, pennants, etc.; (6) business management of the printing department. All this accounting should be audited by a member or committee of the high school faculty.

Still another type of record which would be of some value, especially to subsequent teachers or principals, would be a record of dates of adoption and changes in the textbooks used by the school. If causes for change could be given, it would make the record still more valuable. This also might well be worked out, under supervision, by pupils of the commercial department.

PART III

CLASS MANAGEMENT AND THE TECHNIQUE OF TEACHING

CHAPTER XIV

PRINCIPLES OF CLASS MANAGEMENT

As indicated by the title, it is now proposed to deal with the principles of management and with the technique of teaching as they apply to the class work of high-school instruction. In this treatment a departure is made from the method of treatment adopted by most other writers, in that technique is dealt with as applied to subjects, or related groups of subjects, after a brief discussion of the general principles of management as applying to all. In this respect even the best writers, although sometimes recognizing the importance of subject-treatment, seem to have erred in failing to distinguish sharply enough the different functions discussed.

The general problems of high school management have been considered throughout the second part of the present treatment. The purpose is still further to distinguish between those general principles which underlie all successful instruction, and the art, the technique, of the teacher at work in her particular department of the high school.

In undertaking such a treatment we should keep in mind also the two viewpoints which the high-school situation requires. First, there is the teacher herself, understanding the aims in view and the relation of her subject to the attainment of those aims; knowing the field of her materials and the avenues of approach; capable of judging the interpretative

power of the pupils who are to undertake to organize this new material on the basis of their own past experiences. Then there is the supervisor of this work, interested especially in attaining the ultimate social aims which the school represents, and therefore viewing the work of the individual teacher with such criteria in mind as shall enable him to measure its degree of effective accomplishment of its share in the process of realization of those aims.

The high-school problem of management presents a marked degree of differentiation of work as compared with the work of the elementary school. Not only do the subjects differ more widely and definitely, but the manner of instruction also differs, each teacher dealing with her own subject or group of related subjects. Further, the scope of the work is vastly greater and the character and purposes of the exercises required are correspondingly varied. It follows that a wider range of principles is involved, as well as a different application of such principles as have already come into use, in a simpler way, in the elementary school. Even if we adopt Dewey's idea that adolescence is a part of an underlying continuity of development, we shall doubtless also agree with him when he says, "It is an epoch of reconstruction, a making over."[1] We should not lose sight of the fact that there is here a more or less difficult transition, whether in educational theory or in actual practice. And this is true alike from the standpoint of pupil, teacher, and educational theorist.

The real intent and significance of this broader scope of work in the high school field are in the rapidly widening range of interests of the pupil of this period. He seeks to know more about himself, his natural environment, and the race in general. It is this broadening scope of activities to meet the needs of the rapidly developing adolescent that renders a full treatment of class management for high schools on a basis of general principles impracticable.

[1] Dewey's *Mental Development, Fourth Stage.*

As far as any such general treatment of class management is desirable, however, we are not lacking as regards a unifying principle. The changed physical and psychical conditions represented in the pupils of the high school give color and purpose to all the work. Thus the aim of this period of education may truly be said to furnish a basis for unification of treatment of all departments of the work. To state this aim in the light of the forward movement which it represents, we may say that it is to use the arts and experiences acquired during the elementary stage as at once a means of further training and also as a basis for the assimilation and organization of the essential elements of such training into (*a*) more fully developed habits; (*b*) broader knowledge of nature and humanity, and (*c*) constructive power of mind with ideals that call to further effort along the lines of human progress. With such purposes constantly in view, the teachers of all departments have a common rubric as a basis for both the general and, to a certain extent, the particular treatments to be adopted in managing the instructional work of their respective departments.

The general principles of management involved as applying to all departments of high school work will be the chief topic for consideration in the present chapter. The particular treatments will be discussed in connection with the various departments of work in a series of chapters that follow. In the discussion of the organization and government of the high school, a basis has been laid for those features of general management which enter into such details as movements of classes, intermissions between classes, etc. These involve problems of economy of time, brief respites from the stress of classroom work, and the general social attitude of the pupils. All these things will fall to the oversight of the principal with the coöperation of the teachers, or of such of them as may be specially designated for this service.

There are, however, certain physical details of management

to which the teacher should attend. First of all will be the seating of classes and arranging seating diagrams for use until unfamiliar names and faces are definitely associated. Thought should be given to the comfort of the class and the individuals of the class. This will involve, perhaps, some points in arranging the seating. It will also involve some care as to the condition of the room with respect to light, temperature, fresh air, and cleanliness. As to working materials, the teacher should see to it, before recitation time, that such supplies are provided as the nature of the class work may require, such as crayon, paper, and other materials furnished to the school as a whole. If laboratory work is involved, the necessary apparatus should be ready for use; if drawing, sewing, or shop work, the teacher's checking should show that the essentials for these lines of work are readily available. In history and geography a similar preparedness should appear in the provision for ready use of the necessary maps, charts, and atlases. It should not become necessary to take time from the class or laboratory period to send for these various materials or to hunt them out of a jumbled and disordered collection just at the time when they are needed and when the class has been brought to the point of interest in their use.

The keeping of class records by the teacher is another matter of physical detail in management. In some schools teachers are required to keep a daily record of the individual work of pupils in addition to the attendance record. Probably few teachers can do this thing successfully, but even for those who can the practice is of doubtful utility. No doubt there will be need of jotting down certain memoranda as a basis for recall when the teacher comes to the time of estimating each individual's progress; and for some subjects this estimate may readily be made each day. But as a rule the practice of recording daily grades is more or less vicious in its results. It is assuming that the pupil's reaction to a question, or in handling a problem, or in executing a formal

process, is capable of a fair valuation, made on the instant, and detached from all other considerations. Such a record, taken at uncertain times, perhaps one or more times each week, may reveal some tendency or weakness of individuals; but it can hardly be taken with fairness as representing the pupil's actual achievement in the subject in hand. Each teacher should be free, assuming that her aim is clear in this respect, to keep such records of daily work as the subject and conditions seem to require, but not at all necessarily with the idea that the whole of a pupil's record in a given field of study will be equal to the sum of all these parts. It may be true that the parts in aggregation do not equal the whole; and nothing should be done that is calculated to make the pupil think the equality exists when it does not.

All such daily records should be subject to revision, as far as final results are concerned, by means of frequent reviews and tests over wider connected areas of the subjects under consideration by the classes. Special assignments are often found desirable in order to get before the class, as a whole, certain material for discussion. The way in which these assignments are handled, if the teacher has planned them aright, will often serve as an excellent basis for checking the pupil's progress.

The work of the class should be understood always as liable to obscure, more or less, the interests and peculiar needs of the individual. This is one of the weak spots in the group method of instruction. The manipulation of the class work with reference to participation in recitation, special assignments, experimentation, or drill work should always be so planned as to result in a maximum of participation by each individual. But there is another sense also in which it should result in general class participation. It should lead to discussions; to representation in actual practice with assignments of parts, as in business transactions, or dramatization; to the tabular presentation of materials col-

lected by different members but to be arranged as illustrative of certain principles under consideration.

On the whole, also, the teacher will seek, as a general outcome, good order as determined by the nature of the work in hand; promptness in meeting all requirements as to work assigned, as well as in attendance at class sessions; celerity in execution of all physical details of work, in order to economize time and to acquire an essential habit.

Assuming that the above details — of a more or less physical nature — have been properly provided for, the actual principles involved in the management of instruction may be considered. First among these is the aim of teaching. This will vary with the point of view, which may be (1) that of society in establishing and maintaining the high school; (2) that of the teacher in dealing with her own subject. This may involve again two aspects: (*a*) The aim of teaching a given subject as a part of the accomplishment of the social aim; (*b*) the aim of the teacher who teaches for the love of the subject itself and the pleasure which a continued pursuit of it may bring. (3) There is also the aim of the pupil in studying the subject.

An examination of these three viewpoints will readily reveal a possibility of wide variation. Yet the test of good management will be in ultimately harmonizing them. If, for instance, the teacher's dominant aim is of the second variety, it may devolve upon the supervisor of the work to bring about an adjustment of this to accord with the social aim. In any event the probabilities are that the pupil's aim will fall short of both the teacher's aim and that of society. It will then become an important part of the teacher's work, starting with the pupil's aim, gradually to lead him to see and to appreciate the social aim and possibly, also, the aim of the devotee, the specialist in research. This difference in aims furnishes a basis for classification into (1) aims that are inherent; (2) aims that are immediate or tentative. Under (1) there may

occur two subdivisions: (*a*) Aims which society agrees upon as presenting desirable ends, for the attainment of which a subject is retained in the program of studies; (*b*) aims inherent in the sense that the subject offers a certain gratification in its extended pursuit for its own sake, regardless of what the social interest may be.

It will readily be seen that, in either case, the understanding of the aim that should be uppermost is fundamentally essential to the wise direction of class work on the part of the teacher, or its effective supervision on the part of the principal. Especially is it desirable that, as far as possible, the social aim and the aim of the devotee should lead largely along the same path and that the teacher, as devotee, should keep well in mind the more immediate aim both of the pupil and of society.

Next in importance to an understanding of the aims of the school and of a given department of work is a knowledge of the materials of education and the exercises of the school as related to the teaching function. The basis for such knowledge will readily appear as being a thorough knowledge of the subject matter of one's department and of closely related subjects. The knowledge of how best to make use of the materials and exercises in order to attain the end sought by the school, and by society through the school, constitutes the professional side of the teacher's training. In this sense there is a science and an art of teaching. The science appears in the body of organized principles which underlie the processes of teaching, both on the side of the teacher in what we call class-management, and in the nature of the one to be taught, which we call educational psychology. The art consists in the application of this knowledge, and is what we have in mind when we speak of the technique of teaching.

On the side of knowledge of materials the teacher will need to be able to distinguish clearly between that which calls for repetition and drill until it is mastered in a formal way, and that which is content-material to be thought through or worked

out by experiment, and which does not admit of drill exercises in its mastery. Roughly speaking, the mastery of a language would typify the first, while the study of science or history would readily represent the second. The drill lesson itself will present some difficulties. The forms of drill required will vary. In learning a language, for instance, the drill exercises should be selected with reference to economy and completeness of accomplishment on the part of the pupils. Herein lies the significance of the different language methods. With a problem lesson, on the other hand, the chief point is to get the pupils to see the problem clearly. It is the process of teaching the pupils how to apply their thinking power to the mastery of a lesson previously discussed in connection with the study problem.[1] The review lesson will usually involve both drill and problem work. It will call for a synthetic treatment of the materials gone over and their organization into a consistent body of information or of related principles.

Laboratory lessons and lessons in shop manipulation will be found to involve certain new features. There will be problems and drills; but the thinking will be with more concrete relations, and the drill almost entirely physical. In the laboratory the problem will be presented as a fact to be determined by experimentation or close observation, or both. The drill will be chiefly on the manipulation of apparatus. The drill should lead to celerity in handling, accurate adjustments, and care and judgment in avoiding breakage or accidents. The problem will then be solvable through successful manipulation and the computing and recording of results. The drill element in laboratory work is often lost sight of by teachers intent on conducting experiments. Much loss of time and waste of materials may often be avoided by giving more attention to this phase of the work.

The organization of subject matter and materials for the work of the high school frequently becomes a burdensome

[1] See Chapter XII.

task. It is important that teachers and principal coöperate in working out a practical program (course) of studies for the school and that changes in this be made only when it is found necessary to introduce new elements or to reduce the amount of work. When once a good working program has thus been established with a logical ordering of courses, and due provision made for sequences and prerequisite subjects, the individual teacher should be able readily to determine the content and aim of the courses assigned to her. In planning the order of presentation of her work, however, she will find it desirable to take into consideration the particular community conditions which may act as limitations on the materials to be used, or may serve to supply previous experiences on which to build up the new work. The particular class, also, will need to be taken into account, for she must begin with them on familiar ground. Moreover, the abilities of classes will vary from year to year in the same community. In other words, there will need to be frequent readjustments of the work in the various courses offered in order to meet these changing conditions.

Such necessary readjustments should be carefully worked out in planning each lesson — a procedure which will not admit of the using, from year to year, of plans previously outlined, or of following slavishly a textbook or manual. The final test of the teacher's comprehension of aims and of her ability to make needed adjustments in organizing the subject matter of her courses will appear usually in the lesson assignment. Here, then, there must be careful consideration of the abilities of the members of her class, in order to provide alike for both weak and strong, and to give directions for special difficulties; of the general aim of the school and the relation which the immediate aim of the lesson bears to it; of the relation of the lesson to the past experiences of the class; of the motives to be appealed to or the incentives to be awakened; of the equipment needed or the references to be

given; of the kinds of exercises which the lesson will call for; and, finally, of the opportunity it may offer for directing members of her class to some new intelligence with regard to vocation.

Following closely the organization of materials and exercises and the assignments of lessons comes the instructional work of the recitation. This involves certain principles of management as well as principles of technique — the art of teaching applied. The latter will be discussed in a later chapter. The first thing involved as an underlying principle of instruction is the aim which first presents itself when the lesson is assigned, as noted above. As we have seen, this aim may be the general aim of the school; but this is not so vivid as the immediate aim of the subject and of the teacher. This latter may include matters of personal well-being of the pupils, such as physical health and comfort. Or the aim may be to give instruction in regard to forces and conditions in nature, or in human society and its institutions. There will be, also, the aim so to instruct as to facilitate the formation of certain necessary habits, such as attention to details, correct study habits, the habit of an open-minded attitude toward the truth, habitual integrity, and self-reliance in study.

The setting up of ideals will be an important element in the aim of instruction, ideals affecting one's person, or social relations and obligations; ideals of service; ideals of leisure. To the furtherance of this aim some subjects will lend themselves much more readily than others. A clear understanding of these differences and limitations will facilitate the teacher's progress as a successful craftsman. Along with the establishment of ideals in the minds of the pupils should come also the fixing of certain interests in life's relations and activities which, in the nature of things, should become established and abiding. Such interests appear as related to one's vocation, or one's social attitude, whether selfish or altruistic. They become the chief factors in determining for the individual his

standing and reputation as a man, socially, in business, in public service, in his home, and in all private relations.

Interest is a second important principle involved in the work of instruction. It involves a willingness to attend, which, in turn, develops into the habit of concentration. The teacher will find that some forms of interest are spontaneous, instinctive, while others are acquired through experience. It thus becomes a part of the business of instruction to utilize instinctive interests and also to develop new interests as a result of the teacher's skill in employing the materials and exercises of the classroom to this end. It is doubtless fair to assume, however, that the instinctive interests have been sufficiently exploited in connection with elementary instruction, so that little direct appeal to these will be necessary in high school instruction, even of the junior high school grades.

The process of synthesizing old and new experiences in instruction in such a manner as to round out conceptions of the various departments of thought and of achievement of the race is an essential factor in instruction. The modern term for this, according to the Herbartian school, is apperception. In this process of uniting into one structure, one organism, the new and the old in experience, interest and motive must keep the temperature right while the teacher, chiefly through the function of class instruction, brings about the contacts which permit the elements to fuse and unite, or establishes the environmental relationships conducive to the necessary organic growth.

The problem of discovering and applying motives is included also in a study of class management. Indeed it is closely identified with the problem of interest. To discover a motive for interest or action by a pupil is to furnish him a purpose in doing the task that is set before him. This motive then expresses itself in his mental life in the form of a feeling of interest. The satisfaction of solving problems becomes a motive as soon as it arouses a feeling of satisfaction. The

fear of a certain object becomes a motive for avoiding that object. The desire for approval may incite pupils to do what they would otherwise fail to do. In order to make application of motives in the high school, the teacher needs to know as much as possible of the likes and dislikes, the hopes and fears, the strength and weakness of her pupils.

Training in the use of the various processes of thinking and reasoning, as has been noted in a preceding chapter, also enters into the successful management of classroom exercises. These processes are usually divided into two classes — inductive and deductive reasoning. This is more or less an arbitrary distinction for the sake of definition, since these processes are seldom separated in practice. The important thing in instruction is to be sure that pupils learn how to apply these processes in the solving of problems and also in experimentation and classification. It will readily appear that certain subjects naturally lend themselves to inductive reasoning while others are characteristically deductive. Still it may be possible and even desirable to invert this order in the classroom treatment of these subjects. Especially may it be true that individuals are mentally so constructed that they will be able to succeed most readily in mastering a subject if they are permitted to apply the method of reasoning directly opposed to the one usually employed.

CHAPTER XV

PROGRAM OF STUDIES AND EXERCISES FOR THE HIGH SCHOOL

Among the more fundamental problems connected with class management, that of a systematic arrangement of studies and exercises through the different grades included looms large. The introduction of the intermediate or junior high school into the plan, while it tends somewhat to relieve the pressure quantitatively, does not simplify the problem of arrangement. Perhaps we may again refer this to the influence of traditional outlook on the part of those who administer these affairs for the schools. However, the movement confronts us as a condition to be provided for, and may well be met, therefore, by a serious effort to find the most practicable and effective solution possible.

Unlike the period of elementary education, the age of pubescence brings with it a widening social interest and a desire to choose a calling. This is due largely to the development of sex instincts and the consequent wider outlook on life and its social relations. Naturally the youth seeks in his experiences a response to the growing sense of the prospect of a larger participation in this life. He begins to catch glimpses of the approach of responsibilities which he must prepare to meet. He grows distrustful of any education that does not promise this preparation. Unlike the elementary child, he is no longer satisfied to take his education entirely on faith. He wants to know the value of what he is getting in the light of the vision of his life that is to be. It is not necessarily to be implied that on this account we are to under-

take, at this period, to train specialists; but that we are to differentiate the possible curriculum of the individual more to the end that it may serve both as a means of testing his ability along given lines and also as a suitable foundation for future specialization, either in the work of life or in the university. In the light of present tendencies, as well as in the light of the apparent and probable social needs to which secondary education should minister, we shall now undertake a more detailed discussion of the program of studies. In doing this we shall assume that the fundamental purpose of the intermediate school, i.e. the readjustments of the program of studies so as to make a more complete articulation between elementary grades and high school, has been provided for. This will make it necessary in this discussion of arrangement to consider the entire program through the six grades above the elementary group of six.

The first question which presents itself at this point is: On what basis shall we classify the courses of the program so as best to enable us to preserve a balanced condition as to the training it offers? The ordinary laity, as well as some of the profession, insist on grouping subjects as either practical or cultural. In making this classification there is evidently the thought that certain lines of school training bear a direct relationship to preparation for the duties of life, while others bear little or no such relationship. As a rule this class could put the emphasis on those subjects which they consider practical, to the limitation or exclusion of such subjects as are not readily associated by them with the practical standards set up.

Such a view of the educational process would, if dominant, be likely to omit from the training of youth much of that which goes to make the historic races what they are in the development of the world and of mankind. It is quite essential that the young should be taught the more fundamental arts of living; but it is no less so that they should know something

of the relationships, the responsibilities, and the uplifting influences of the social group to which they belong.

Another classification of the materials of secondary education may be called the traditional one. This has come to us out of the educational history of the past. The grouping in this case has reference more particularly to the origin of the materials which the various subjects represent. Such a classification would give us the humanities, or all those subjects, as language, literature, art, and history, springing from human associations and activities; the natural sciences, or physical science, biology, and earth science; political science and economics, having to do with governments and with industrial relations and activities and finance. This is a very interesting and helpful grouping, and one that we need to preserve for both its historical and its scientific value.

A more modern view of education, however, takes quite a different basis for the classification of educational subjects. This point of view assumes, in the first place, that education is much more a matter of growth and training than of imparting information. It asks first, then, What are the results to be desired in the training of youth? and, second, What will be the probable effect of a given line of work or grouping of subjects toward bringing about these desired results?

The procedure must then be from a psychological point of view, on the one hand, and from the point of view of adjustment to environment, or the sociological point of view, on the other. If the humanities are to be considered, they must be put to the test chiefly as to the relationship they are to bear to the mental experiences of the adolescent in the process of his mental evolution. Here the method, even, is to be put to the test. The youth is to be socialized; what particular application of the humanities, and in what relationship to other lines of experience, will best do it? He is to be trained to alertness in acquiring and comparing data, and in determining between fact and probability; what is science training,

combined with training in other lines, to have to do with the accomplishment of such a purpose? He is to be prepared to play his part as a citizen, as a factor in the business and industrial affairs of life; what economic training, including direct contact with material things, and the sympathetic training of actual participation in industry, will best make him ready to act his part?

Not merely the cultural or practical, certainly not the merely traditional, is longer to be preferred, then. When once the desired adjustment is understood; when once we have gained some knowledge of the causal relations of what we are pleased to consider the materials of education to the development process in youth and to the attainment of educational ideals, then this understanding and this knowledge shall furnish us with the real science of secondary education. We shall no longer have to grope about for a basis on which to adjust our program of studies. Some little headway has already been made toward such an end. The knowledge gained is mostly empirical, to be sure; but it is not to be despised. Even with the imperfect knowledge now in our possession of the principles involved in a psychological classification of the materials of education, we are probably safer to proceed on such a basis than we would be to rely solely upon the popular or traditional conceptions.

With this understanding of the limitations which confront us, we may now proceed to a more definite consideration of the elements involved in the secondary program.

In his report for 1894–95 the late Superintendent Soldan, of St. Louis, expresses a very fundamental principle with reference to the classification of the materials of education. He says, "Assimilation and activity, or receptivity and spontaneity, are two poles round which the world of the school must revolve." Here is a definite statement of the differing content of the two hemispheres of the educational process of stimulation and reaction. This furnishes us a basis for

the most general as well as fundamental grouping. Whatever is capable of being received and assimilated by the mind of youth, to become a part of that which impels to action or to spontaneous expression of some sort, or which serves as a basis for future conduct, will go into one group of materials. Whatever will give conventional ease and skill in action or expression along the lines of the manifold needs of mankind, as now situated in history and in nature, will belong to the second group.

As we have found that in the elementary stage of education progress comes through a pretty close correlation of stimulation and reaction, so in the secondary stage we may expect the best results in the acquiring of arts by continuing this correlation. The necessity will soon appear, however, for a tendency toward isolation. More and more, as the student progresses, will his desire center in the cultivation of the art for its own sake, on the one hand, and on the other, to the development of systems of thought reaching forward into the realms of speculation.

Viewed in this way there is no readymade line of distinct division separating the ordinary subjects taught in the high schools into two such groups. There is, however, a classification sufficient for practical purposes. It is easy to see, for instance, that the materials for stimulation, or reception and assimilation, are to be found in the fields of nature and of history, using this latter term again in its broader sense. But the group of subjects which will correspond to training in action or expression is not at all clearly defined. In practically every phase of them we find a merging into the field of stimulative or impressional materials.

This amounts to saying that each particular type of expressional activity has, out of the very process of its development, accumulated a mass of historical or scientific materials, or both. Take, for instance, language; the teaching of the mother tongue or of a foreign language will soon lead to the

grammar and the literature of the language — the one a science, the other an art, which have sprung from use in expression. Drawing and color work lead directly up to the historical study of art in these particular fields. Mathematics will be found to have much of interest in the realm of history as well as a strong footing in the field of science. Constructive work becomes immediately connected with history on the one hand, as a basis for interpretation, and with science on the other hand, which must be constantly applied in the accomplishment of desired results. Its more or less direct relationship to art, especially decorative art, is also readily apparent. So, also, music, from being a training to the expression, through harmony, of the finer or deeper feelings and emotions, passes over into the realm of an art whose masterpieces are to be studied and appreciated, and whose history is to be read.

The importance of the expressional side in education appears when we consider that a typical form of expression always determines the individual's vocation or avocation. At first thought there might appear to be exceptions to this statement in the case of some professions. It is true that some of these are more strongly expressional than others. Fundamentally, however, the theory holds, even in the professions. For although the professional man — the lawyer, the physician — may ascend above art in the sense that he may become master of principles, and that herein lies the essence of his profession, yet in the application of these principles he must ever resort to characteristic forms of expression. And it is in the application that his professional character emerges. Hence we may truly say that the fundamental differentiations of vocations are along lines of expression rather than in the materials of content subjects. The latter furnish the motives, they constitute the stimuli; but in order to become complete experiences they must function in some one or more forms of expression.

We shall not be confused, therefore, when we speak of the impressional, or stimulative, subjects and the expressional subjects which make up the various courses of the high school program. Under impressional subjects we may first consider the historical or sociological group. The subjects belonging most distinctively to this group are history, including ancient, medieval, and modern; civics; economics, beginning with economic history or geography, and passing into an elementary study of the theories and principles involved in the production of wealth and in industrial relations. Secondarily would be included the historical aspects of such art phases as literature, architecture, painting, sculpture, decorative work, music; and the historical phases of all arts and sciences. What are the reasons, in the light of modern ideas of education, for including this group in the secondary program? First of all, in the process of adjustment to his environment, the individual needs to know what his present situation is historically. In order to be able to comprehend the institutions, the social movements and tendencies about him, man must know something of the history of these things. Adjustment to environment is not to be a mere passive relationship. Men are still reacting upon each other and upon their institutions. In order to participate intelligently in this reforming process they must know something of the doctrines and the theories concerning organized society which history shows to be either partially or utterly false, or potentially if not actively true.

Incidentally, if the work along these lines is well conducted, the knowledge acquired of his own institutions as seen in comparison with those of the past will develop in the youth that interest in and love for these institutions which is the only sure ground for honest patriotism. The process of training should also lead to such habits of careful weighing of evidence as will foster a sincere devotion to truth. Among other things one very important result is the broadening of one's outlook, the bringing of all ages into one, the develop-

ment of broader human sympathies. In this way the constructive power of the mind is exercised in this particular field, and the memory is stored with incidents and examples illustrative of human motives in relation to events local or instructional. Thus largely will the ethical judgment be strengthened as far as this may be possible through study and reflection. In the history of the arts, likewise, the esthetic tastes will find materials for their strengthening and deepening.

If the work of the elementary school has been well done, the youth will come to his high school training with a fairly clear notion of historical perspective. He will have acquired means of interpreting historical records in his contact with and study of the elements of society about him. He will also be fairly familiar with the great names of history and will know something of what they stand for; and he will have at his command the more elementary arts of the school. What may we best offer him, and in what order, in his secondary training?

We are limited as to time. Probably three years, at most, may be given to this subject by the individual. If he is to find his present place in history, it would seem as though he must trace the main currents by taking courses in sequence; yet he may not grasp the whole sweep of history. This is the dream of those who advocate a course in general history; but such advocates are rapidly disappearing. The history that will contribute most to an understanding of our own institutional life is that of Greece, Rome, and western Europe, followed by a careful study of the colonial and constitutional periods of our own history. Somewhere in the three years should come the history of the leading arts, especially of literature; the development of the science of government as found in this country, and the more fundamental principles of economics, given, as far as possible, in the light of the history from which, chiefly, they have been deduced. If ad-

ditional courses are to be offered, these may include more intensive studies of English, French, or German history. In view, also, of the interests that we have in common with other American states, it would be a good thing if we might have presented in our high schools at least a brief survey of the historical development of Mexico and of the leading South American states.

It is probably true that as far as these courses themselves are concerned it makes little difference as to the order of sequence. If each one is presented in a manner to correspond to the capacity of the class, it will make little difference where we begin. But if we are to have in mind chiefly the finding of his present place in history, the youth will probably find his way easier if he begins nearest the source and follows the stream, in its broadening sweep, down to modern times and his own nation. Such a sequence will also aid greatly in the study and interpretation of literature. A further consideration, if needed, will appear in the fact that the study of such abstractions from history as political and economic sciences will naturally need a strong and rather complete historical background.

Whatever courses are presented, or in whatever order, it should be borne in mind that this is not the time to arrange work for the specialist in history. The purpose should be rather to interest the pupils in history and to give them insight as to how to read history understandingly. They should learn to recognize the causes of movements, to sense the crises in national evolution, and to note the progress in the arts of civilization. They should read the lives of men who have led in the great social upheavals. In other words, the teacher's immediate aim should be to instil a liking for history and for the knowledge of human nature and human affairs that comes in return for the devotion of the reader.

There is a possibility, also, of some modification of the history courses through the introduction of a readjusted

program for the intermediate school. Thus far, however, there seems to have been little inclination to introduce high school history courses into the early grades of the junior high school. The grammar grade course in United States history that has so long persisted is still retained, although presented usually in a different manner.

If we follow the logical sequence of history courses we shall, then, have the following:

1. Ancient history down to about 1775, with emphasis on Greek and Roman history. These are the only nations whose annals present life-histories in practically complete cycles. This, coupled with the ideals which they supplied at the time of the founding of our own government, makes the study of these complete national life-histories peculiarly valuable in the training of American youth. Their achievements become ultimate products of their existence as nations, and thus make it possible definitely to relate cause and effect as they appear in the rise, ascendency, decadence, and legacy of these two classic types.
2. Modern European history from 1775 down to the twentieth century. For the ordinary small or middle-sized high school this should be sufficient for the study of modern Europe. However, special elective courses may be offered, if desired, such as English, German, or French history.
3. A good course in American history, including, if expedient, some reference to other states of the western continent besides the United States, may then be presented for the eleventh or twelfth grade. This course should deal rather intensively with the causes of origin, and with the major forces which have characterized and determined our growth down to the present time.
4. A course in the study of our form of government, local and national, followed by an elementary course in the

principles of economics. These half-year courses should come, in the order named, in the twelfth year of the school. In case the course in economics is offered, there should be a brief course in commercial geography to precede it, preferably in the third year.

Of the above courses in sociological subjects all high school students should be advised to take at least three years.

The second consideration having regard to the individual's relationship to his environment is to be found in nature. In secondary work this gives us the natural sciences. For the nature and properties of matter and the forces which are manifested in and through matter the courses usually offered are physics and chemistry. For the nature and properties of life, and how it is operative, through plants and animals, the biological sciences are presented. For the earth as the abode of plants, animals, and man, its surface conditions, its drainage, its atmosphere, and its place in the solar system, the study of earth science is included. All this again is impressional work, well calculated to stimulate thought and feeling in the mind of youth. Nature, with her sublime forces, has ever been man's first and greatest teacher. Here are the things elemental which take the mind away from self and make it possible to conceive the truth or discover error impersonally. The great difference between this field and that of history, as furnishing stimulative material in education, lies in the fact that this is elemental, pure, and unmixed with the personal element; while historical matter, by its nature, carries with it the conventional, the traditional, — that which has been impressed upon the individual from infancy through contact with more mature minds. Then there are nature's infallible laws as opposed to the devious tendencies of historical movement. Evidently, no special method of treatment of historical materials can be made to serve the same purpose in the training of youth as wisely directed work in natural science.

It is easy to see that here again the purpose is not to cover the entire field of scientific knowledge. Some knowledge other than that to be acquired through his own investigations must certainly be given the youthful student; but this should be so managed as not to impair the real purpose of this particular element of training. What we should seek to accomplish is to preserve the open-minded attitude of the individual with regard to the further revelation of truth through nature as well as through human experience. To do this we must seek to secure and preserve the first contact of mind with nature in all her unconventional simplicity and purity. We would not be understood as underestimating the place of authority in education. The trouble is that we are prone to rely too exclusively upon what others have done or said to the neglect of that training which gives independence and initiative in both thought and experimentation. There are those who make of the natural sciences but another phase of historical training, teaching dogmatically the often imperfect products of human thought with regard to nature's processes in matter or force or life. It is the attitude of mind through training that is the fundamental thing. Demonstrated final truths in the realm of nature are, after all, comparatively few and easily acquired, if only the mind is alert. Of all things the bookish habit needs to be avoided here.

Again, as in the case of sociological courses, our starting point should be determined largely by the things accomplished in the elementary grades. If, as has been suggested by the Committee of Ten, the pupils have acquired the ability to "record, classify, and reflect" on the results of their contact with nature, the way will be open enough for the beginnings of secondary science. As a matter of fact, however, it appears that some time must elapse before such results may be expected. For this reason it seems almost imperative that a course in general elementary nature work should introduce any attempt at high school science work. This course should

acquaint the student with the more common phenomena in nature due to the operation of physical and biological laws on matter. There would be something of physics and chemistry, though nameless as such, something of geology and meteorology, and some of the more general aspects of botany and zoölogy, as all these things mingle in the everyday natural environment.

With the organization of the intermediate school this initial course might well be taken care of in the seventh and eighth, or eighth and ninth, grades of the school. This course might be one of the many proposed "general science" courses, or it might be a modification of physical geography or physiology. A good course in the study of local physiography with instruction in the recording and representation of the results of observations would, if skillfully handled, serve the purpose quite as well.

As to the sequence of the biological and physical sciences, much must depend upon the nature of the subjects themselves. Biology brings the student into more direct, easy, and continuous contact with nature. It is the more primitive science. For this reason it may well precede the physical sciences, which are, perhaps, more inseparably connected with the arts of man. If the preliminary nature work has been well done, it would seem the logical thing to begin with botany, as this field of nature connects itself more palpably with the earth and the atmosphere. Zoölogy and human physiology would follow. The physical sciences might well be given as parallel courses covering two years; or they may come in as separate courses, probably with chemistry preceding, and physics, coördinated with mathematics, completing the program of science courses. Where an elementary course in nature work or geography has been given, the earth science proper may well continue through an entire year in the latter half of the high school program.

For a small high school, unable to offer all the science

courses, the following program will be found to be both logical and effective: —

Ninth and tenth grades: Physiography and botany carried as parallel courses, or at least partially so.

Tenth or eleventh grades: Zoölogy and human physiology blended into each other with no definite limit as to time except that zoölogy shall receive at least half the attention.

Twelfth grade: Physics.

For a fully organized and equipped secondary school whose students come with the preparation of a good, modern elementary course, the following program of natural science work is suggested: —

Ninth grade: Botany.

Tenth grade: Zoölogy, including human physiology; or a choice between zoölogy and physiology for a full year's work.

Eleventh grade: Physiography or chemistry for a full year.

Eleventh and twelfth grades: Physics, or physics and chemistry.

The remaining subjects of the academic program may readily be classed as expressional, although by no means exclusively so. We have found that in the elementary school what are known as the school arts — reading, writing, language, drawing, number work, constructive work — are almost purely expressional. While we speak of these as being acquired in the years given to elementary training, yet there is a sense in which training in school arts is to pass over into the high school. The language work will here involve a fuller mastery of the art of expression in both reading and composition; it will also include the mastery of the vocabulary and sentence structure of whatever foreign language may be undertaken.

Most of this expressional work, of the type usually offered at the beginning of the four year high school, will have a place in the intermediate school. The English will be of a somewhat different type from that heretofore given in the grammar grades, and pupils may also begin their Latin and German there. The difference will be that the study will proceed

more deliberately, with opportunity for comparative study of English and a foreign language. About two years will be required in order to cover the first high school year of either Latin or German.

In like manner drawing and mathematics may be given a place in the curricula of the intermediate school, as may the manual arts, generally, which have to do with any form of constructive work.

The mathematics work in the expressional sense will require that the student master new systems of symbols and their use in making computations and expressing space relations.

The drawing and art work will still demand close attention to the use of media, as well as the acquisition of skill of hand in expression. The same is true of music, constructive work in wood or iron, or any technical training, such as business courses, household science, etc. But, as has already been pointed out, all these activities will enter more or less into history — directly or through art and economic relations — or into science. A discussion of these groups more in detail will serve to reveal to us the part that each subject is to play in the real process of secondary training.

First of all is language, and of this quite the most fundamental is the mother tongue. New words are constantly coming into the youth's vocabulary, and the formal expression or spelling of these must be mastered. This work will occur incidentally as the words arise out of new fields of study. The mere art of writing, or penmanship, should need no further attention except where its technical use is involved, as in business courses. Training in the art of reading and speaking effectively should continue in connection with new forms of discourse which come up in the study of literary types. That English training is weak, indeed, which makes no provision for the training to effective reading as well as writing of the essay; which provides no training in the art of debate, or in the effective rendering of some of the world's great orations; or even

which neglects entirely the art involved in effective dramatic reproduction, to say nothing of the art of reading in a pleasing manner an ordinary poem or a chapter in a novel. These arts, along with the art of composition, play far too important a part in the activities of life and in the individual's power of appreciation of the world's great artists in these lines to be passed over too lightly in the years of secondary education.

The study of literary classics as works of art, and with a view to the appreciation of their literary qualities or the imparting of high ethical and esthetical ideals, belongs distinctively to the sociological group of subjects already discussed under the proper head.

The formal grammar and rhetoric deal more with language as a science, or with the principles of logic, and should find a place in the later, rather than in the earlier, years of the high school program. The nature of the training which this period of life seems to demand would put little stress on the formal study of rhetoric. Its more elementary presentation, begun in the elementary school, may well be continued in connection with the composition work and the study of the classics in the early years of the student's curriculum. Its more formal presentation belongs to the undergraduate years of the college. Somewhere in the last year of the work in English should come a good study of some such text on grammar as that by Earle in his *Simple Grammar of English.* This would give an opportunity to introduce to the pupil the idea of logical thought as related to logical sentence structure, as well as furnish him with some knowledge of the history of our language.

Let us assume that the work now begins with the seventh grade and extends through the twelfth. In the intermediate grades should come a large amount of training in the simpler forms of composition, the purpose being to give facility and accuracy in such matters as punctuation, paragraphing, and sentence structure. This should be further aided by comparative language study with the Latin or German. Then

there should also be a study of the simpler English and American classics with the purpose in view (1) of correcting and perfecting the pupil's reading habits; (2) of cultivating a taste for and appreciation of literary art.

There should follow in grades nine to twelve, for three to four days in the week, a study of the great literary types, such as lyric poetry, the epic, the drama, the essay, the oration, the novel. This should be a study in comparison with the same types, as far as possible, as they have appeared in other ages and in other languages. Along with this, also, should come the study of composition largely in its application. The subjects for this would then be drawn mostly from the activities of the school.

In connection with this work pupils should learn to write business letters and forms; reports on experiments, investigations, and readings; descriptions of scenes visited; narration of events; editorials; resolutions and recommendations; essays, stories, and poems.

Out of some such program of work in English the student should get at least a modicum of grace and accuracy in the use of the mother tongue; he should also acquire some feeling for literature in its esthetic and ethical aspects. But he should get more than these two things. In connection with his study of the epic he should learn what part this literary type has played in the evolution of the religious life and art of the race. Along with his study of Shakespeare should come an insight into the drama of different ages and the part it has played in the fixing of race ideals. The study of lyric poetry should likewise call for a comparative view, as should the essay and the oration in prose. Something of the history and development of the novel as a dominant type of modern literature, together with some knowledge of plot mechanism and ability to discern motives, should be a part of the results of high school study of literature. It seems unfortunate that a too close adherence to the mere chronology of literature often crowds

out the possibility of any such comparative study of the great literary types.

The foreign language work of the secondary school is chiefly concerned with the development of expressional power. Some attention will, of course, be given to the simpler literature of whatever language is studied, especially in the more advanced grades; but in the main the student's time will be taken in the mastery of the language as a means of expression or interpretation. What is to decide the question as to which language shall be studied? First of all, we may consider the foreign language work in relation to what it really offers to the student. If it is the Latin, one of the first considerations, perhaps, may be its direct relationship to the English because of the large number of words in the latter language derived from the Latin and because of its relationship to the grammar of the English language. In other respects the study of a classical tongue offers at least as much by way of comparative study as would a modern language. It leads, also, to a very interesting body of literature, representing the conceptions of politics, art, religion, and philosophy peculiar to the classic age. But unlike the modern languages, it offers little or nothing in the field of present movements in human interests, especially of modern statecraft, or commercial and industrial development.

The modern language, on the other hand, serves quite as well for comparative language study; and in the case of the French is nearly equal to the Latin itself in acquainting the student with English derivatives from the Latin.

On the whole, it seems a fair summing up of the situation to say that for ordinary language training which will not extend beyond the high school there is little room for preference as among the Latin, German, or French. For those who would prepare for literary pursuits, such as the law, the ministry, teaching, or journalism, and also for the study of medicine, there seem to be certain reasons which favor the choice of Latin. Yet it does not follow that men may not

succeed in any of these lines and still have no knowledge of Latin. On the other hand there is scarcely one of these callings whose followers would not be greatly strengthened by ready access to the current literature of their fields in the German or the French. Certainly in the interests of the development of a broader race sympathy on the part of our youth it would seem that a knowledge of modern language is indispensable. For those who expect to enter the fields of science, business, or technical pursuits of any kind, there is little doubt as to preference for the modern languages. A fair settlement of the question, therefore, seems possible only through a scheme of election, the chief difficulty in that event being found in the fact that the youth frequently does not know in time to enable him to elect intelligently. Here is a case where the advisory function of the school should come to the pupil's assistance.

The Spanish language will offer some inducements in certain localities for its inclusion in the program. But generally speaking it is a negligible quantity in arranging the curricula.

For ordinary purposes of education three years of work in foreign language would seem to be a fair allotment of time when all interests are considered. It is the custom with most schools, however, to offer four years. If three years are offered, the time would better be given to one language. In case four years are offered, two may be devoted to Latin and two to a modern language, preferably German. The courses available in these subjects are too commonly known to call for any further outlining here.

One of the oldest subjects, and yet one the adjustment of which in the secondary program of this country has never been quite satisfactory, is that of mathematics. This commonly embraces algebra, geometry, some arithmetic, and in some cases, trigonometry. For a long time the general scheme has been to take algebra at the beginning, followed, after a year and a half or two years of work, by plane and solid

geometry. The arithmetic is usually a part of the commercial course.

As a means of mental training geometry, especially, offers good materials for deductive reasoning. The careful analysis required in the solution of algebraic problems also furnishes fine mental discipline. The chief difficulty presented by these subjects lies in the fact that scarcely any of the problems ordinarily made use of for the fixing of the mathematical principles involved are in any way related to the other experiences of youth. In other words, the materials are, in a high degree, abstract. Some of the more recent efforts in preparing mathematical texts for high schools show a notable improvement in this respect. The general tendency is to seek to make the work as concrete as possible and to give it a real place in the experiences of the pupils.

Undoubtedly much would be gained if we could once overcome the force of tradition enough to enable us to carry the different phases of mathematical study as coördinates rather than in the order of sequence now customary. Geometry, as the more concrete, should precede; but the algebra is too closely related to it by nature and in application to be separated as we are now in the habit of doing. Then again both the algebra and geometry should be closely related to the science work, especially physics and physiography. They should also find application in connection with manual training, domestic art, and agriculture. The ordinary operations of arithmetic should be in constant use in connection with the corresponding processes in algebra in such a manner as to show the development of algebra from arithmetic. Some such correlation of the work in mathematics is in harmony with that attitude of mind on the part of youth which would ask insistently to know the uses of the work. At the same time it should be borne in mind that the development of the work in mathematics must also be toward its isolation. For, as soon as the question of use is satisfied, interest in the study

for its own sake grows rapidly under normal conditions of adolescence; therefore this phase of the subject must also have its place at the proper time.

The kind of work above suggested really presupposes some elementary work in both geometry and algebra in the junior high school. At least the literal expression of arithmetical quantities and the meaning and simple uses of the equation should be known, together with geometry in its numerical relations, and something of constructive and inventional geometry.

In the case of algebra either the work should be confined to a very elementary course in the secondary school, or else enough mathematical training given, and in connection with other subjects, to give some idea of its applications and importance in the everyday world.

The courses in mathematics may be arranged as follows:

Elementary Algebra, eighth and ninth grades.
Plane Geometry, tenth grade.
Advanced Algebra, one-half year elective, eleventh or twelfth grade.
Solid Geometry, one-half year elective, eleventh or twelfth grade.
Trigonometry, one-half year elective, twelfth grade.
Commercial Arithmetic, one-half year elective for commercial classes, eleventh or twelfth grade.

Small high schools would have to eliminate most of the electives.

The important place which music has in our civic and religious life seems reason enough of itself for the continuation of musical instruction in the high school. Here the youth, at least those who have any musical sense, should have opportunity to experience some of the finer possibilities of this mode of expression, either by actual participation or by sympathetic association with those who do participate. It is really unfortunate that so little is being done, as yet, to open up to our youth the range of possibility for themselves both in the interpretation of masterpieces and in the undertaking of the

elements of musical composition. Of course there is some natural ground for this, on account of the rapid change of the voice during adolescence; but much can be done, if due discrimination is used, without injury to pupils' voices. At least more effort might be made to acquaint our youth with the great composers and their masterpieces. In these days of the victrola such musical training is readily practicable. A high school may well offer such courses in music as (1) harmony, (2) the history of music, and (3) a course in musical appreciation. It should also seek to have regular chorus and orchestral organizations.

We come now to the consideration of the manual arts, including drawing and art work, working in wood and iron, elementary agriculture, domestic arts, and business training. It is unfortunate that the conservatism of tradition, or the lack of financial ability, or both, is so long keeping efficient work in these lines from our secondary schools.

In this respect drawing and art work have fared best of all. The purpose is not to make artists of all in the secondary group. It is, indeed, to give opportunity for artists to discover themselves. But the chief purpose of such training is, first, to give to pupils some power of interpretation of and appreciation for art; second, to give some little skill in the use of various media as an aid to expression in connection with the sociological and science studies of the school and in the ordinary activities of life. A well-organized and successfully conducted course in drawing and art work, in its proper relation to other activities of the school, should leave the youth with a considerably wider range of possibilities in the realm of constructive and creative endeavor. The impulse to represent conceptions of beauty is no less strong in the race than the desire to express utility. The latter may have preceded as a matter of necessity; but the former did not tarry long in the coming.

From the nature of the case, it is not practicable to formulate any very definite program of work for this department. In

general, we may say that the training should include something in each of constructive, decorative, and representative work in art. We may assume that the pupils come to this work with a fair knowledge of form, with pretty definite ideas of proportion and arrangement, and with some ability in the use of common media, and the adaptation of each to particular purposes. Most of this latter knowledge will still remain to be acquired, however. The constructive work, and considerable of the decorative work, will find application in manual training and domestic arts, with possibly some hints at landscape designing. The work in representation should involve description, which will coördinate readily with work in natural history; and self-expression, which will include both interpretation and original expression, the latter opening out into the realm of the ideal. Of course, imitative work will have its place, for art must cultivate the simpler language of truthfulness. But it would be a poorly constructed program which should leave no opportunity for the expression of higher and more universal truths in the ideals of the individual self.

Among the technical matters which should have consideration may be mentioned a knowledge of value, of color, and of composition. As has been suggested, the work of this department connects itself very closely with the manual arts, especially on the side of designing and decorative work. The mechanical drawing is, properly speaking, only a phase of the processes involved in the wood and iron work, and in agriculture and the domestic arts.

Probably no mere school training of the secondary stage can be expected to turn out skilled workmen in the practical fields. What is more important than this, however, may be accomplished. The youth may be so trained in the correlate use of hand and eye, in the manipulation of tools and materials, as to give him a remarkable readiness of adaptability in any field of activity where such skill is required. After all, this is

the paramount thing; for in these times of rapid change, as discovery after discovery reveals new possibilities, those only are likely to survive who possess this power to adapt themselves to the ever-varying conditions of industry.

Besides this training of hand and eye, manual training work offers also an important adjunct to science training. The closer acquaintance with the properties of wood and iron furnishes an important element in the pupil's knowledge of physics and physical measurements, not to mention the contribution to botanical concepts through working with different kinds of wood. More important still, the contact is here again with things elemental and primitive, instead of conventional; and the mind is constantly trained to observe certain inherent qualities of materials or tools which are to determine inexorably the success or failure of an experiment. In relation to economics, also, the work is important. It gives some idea of the real nature and extent of the labor element in production; it arouses in the boy that unspeakable sense of joy because of mastery. The creative instinct may thus be awakened in him, and he may come to realize the coveted prize of the artist, the only real antidote for the baneful effects of the drudgery of toil, on the one hand, and the lust for wealth or power, on the other.

The subjects of agriculture and domestic science are now well established as parts of the secondary program of education. The feeling generally is that these should represent, as far as possible, some application of the principles of the underlying sciences. With the introductory science courses provided for earlier through their introduction into the junior high school program, this seems more readily feasible than heretofore. However, aside from such principles as may be acquired as a matter of information, there is little opportunity for such applied work, especially in physics and chemistry. Such a plan as would include the application of laboratory chemistry or physics in the teaching of these subjects would

be really practical only where junior college work can be provided in the high school.

However, very much can be done toward making the pupils' knowledge of agriculture and the preparation of foods much more scientific than it could possibly be without such instruction. It is not likely that the school will ever become a place for the development of the art side of cooking or of soil treatment. Hence, if these subjects are to remain as legitimate materials for the education of youth, the matter must be determined largely on a basis of the application of the known principles of science in an authoritative way rather than through laboratory experience. In fact, high school work in agriculture should be largely applied science work rather than an attempt at the art side. It is the scientific trend to thought about this ancient and fundamental industry which the world most needs today. So, likewise, in the case of domestic science: there are plenty of good housekeepers who know nothing of the sciences involved who can surpass in skill and adroitness much that the school may do on the side of household arts. The real work of the school is to teach the science and show how its application to household interests will give certainty for guess-work and the power to initiate where before everything was by recipe or hard-and-fast rule.

There is a great field, especially in our rural centers of population, for the teaching of agriculture as an applied science; and there is a large place in every community for the teaching of domestic science.

At least one year each, or the equivalent, of drawing and art work, wood working, metal working with hand tools, agricultural science, and domestic science should be offered in the secondary school. Of course this work will not all be taken by any one student. The arrangement may be for five hours a week through one year; or, better, perhaps, spread out over two or more years with fewer exercises per week. The time usually given to history, science, and expressional

subjects other than manual arts may well be shortened a little to make room for these more active pursuits. If the work is well organized and correlated, no loss will be felt by reason of the shortening.

What shall we say of business training? Under other headings we have already given some consideration to the business side of mathematics, to industrial geography, and economics. What remains is the more technical phase of the training, as represented by practice in accounts, stenography, and typewriting. The theory of accounts is an important subject for high school treatment, and may well be given a place either in the vocational group or as a part of the pupil's general training. The subject should have the equivalent of one year's time, at least, with ten periods per week as a subject not requiring preparation outside of the classroom.

The subjects of stenography and typewriting also deserve a place in the vocational group. However, they hardly belong in the same category with the manual arts. They are specialized forms of writing and composition, involving the mastery of special forms, symbols, and mechanical execution. For their successful application, aside from mere skill of hand, they are dependent upon training in mathematics and elementary English, together with the broad, general knowledge acquired in the study of foreign language, history, and science. They may train to greater accuracy in the other arts mentioned; they do not, however, contribute, in any important degree, to the mental power of the individual over and above what might come from other activities. Work in these lines should come near the close, rather than at the beginning, of the high school program. Two years may be offered, and might be counted as a fair equivalent for one complete year of English composition and for one additional unit which might also take the place of English provided the student still had two years for study of the latter subject. In this case the details of composition should receive careful attention in connection

with each article to be taken in shorthand and transcribed on the typewriter. Perhaps a better arrangement would be to give the work in one year, allowing double periods as in the laboratory work of science.

This much of purely technical training the high school may safely offer, perhaps, at our present stage of development. It seems unfortunate, however, that in a country so rich as ours, and yet so dependent upon the high intelligence of its citizenship as well as its labor, it should not be possible to provide ways and means for all the youth who are capable of doing so to get a good general secondary education before entering upon any trade-school phase of education. In other words, if trade schools are to be established, let them, if possible, supplement the present secondary training of four years instead of supplanting any part of it. With such extension of high school work, and with continuation night schools for training in commercial pursuits and the various handicrafts, our system of education would be greatly strengthened. Of course this would require more money; but what expenditure could the state better justify? As matters now stand, it is undoubtedly best that our high schools go even farther in the direction of industrial work where teachers and equipment can be secured. For the many boys and girls who stop short of the high school to plunge into the work of life there should certainly be held out an inducement to take as thorough training as possible along the line of their choosing. For these, full four-year courses in business, in manual training, in agriculture, or in domestic science should be provided. These courses should be as strongly technical as the age and scientific knowledge of the pupils will permit. At the same time, however, there should be parallel courses in English and some modern language, in history, especially industrial and economic, in geography, and, for very obvious reasons, in the pure sciences.

Beyond and, outside of the class here held in mind is another group who have got all there is for them in an academic

training. They may have fallen short even before completing the elementary course, but belong to the same class as to age and physical development. For these the more clearly defined trade-school type of education should be provided, along with a more thorough mastery of common English in the form of reading and composition, and of the art of computation as applied to practical affairs. To this should be added instruction in the care of the body and in the plain duties of citizenship. Fortunately many such schools are being organized throughout the country as the need is seen and as funds are available for their maintenance.

The insistent call for a better type of industrial training brings us face to face with this problem today in the reorganization of our high schools. As has been suggested in preceding chapters [1] there are two radically different viewpoints with regard to this whole matter of vocational readjustment. One of these is that conception of the function of the school which would place before all else the kind of training — to be offered as a public provision and at public cost — which is best calculated to maintain our national ideals and to give that intelligence necessary to human freedom under a democratic government. This, it is felt, must certainly be provided for, no matter what other demands may be urged. If the time provided for in the training of children and youth is not found sufficient when most economically employed, to give this training and also that required for vocational efficiency, then let the latter be provided with the additional time as well as with funds necessary for its full accomplishment. But let us first see to it that the most economical use possible is made of all the time allotted for school work.

The other point of view is that of those who would seek to exploit the public schools as a means for providing skilled workmen for shop, factory, farm, or counting room, without regard to the needs of citizenship. This would place the

[1] See Chapters VIII and IX.

demands of industrial training first and foremost, with all other considerations made subsidiary. In the light of our past history and present tendencies as to national progress, it is not likely that the people who have in their keeping the interests of posterity through legislation, and through the sanction given for the establishment of schools, will ever permit such an ideal to be realized.

In order to test the relative values in vocational and non-vocational studies as expressed in scholarship records the following study has been made of two groups of students of one hundred and twenty-five each. One group includes only students who offered two or more units of vocational work for entrance to college, while the other group offered only strictly academic subjects. These two groups were selected at random from one hundred and twelve accredited high schools and represent graduates of these schools who became freshmen at the University of Illinois. They represent four consecutive freshman classes. The average scholarship record in high school is based on semester averages. That of the college record is based on hours of work.

The table as given below shows the comparative scholarship records for high school and college as distributed among the 125 students in each group.

Other interesting results of the study appeared, among which are the following.

(1) Thirty-three of the 125 vocational (high-school) pupils took no vocational work in college.

(2) Seventy-one of the 125 non-vocational (high-school) pupils took some vocational work in college.

(3) Of the vocational high-school group 32 made better, 8 made the same, and 85 made poorer grades in college than in high school.

(4) Of the non-vocational high-school group 23 made better, 3 made the same, and 99 made poorer grades in college than in high school.

(5) Fifty of the vocational group failed in 82 courses in college.

(6) Thirty of the non-vocational group failed in 50 courses in college.

(7) The median of each group is lower in college than in high school.

TABLE SHOWING RECORD OF VOCATIONAL AND NON-VOCATIONAL GROUPS IN HIGH SCHOOL AND COLLEGE AS DISTRIBUTED BY GRADES[1]

	High School		College	
Grades	*Vocational*	*Non-vocational*	*Vocational*	*Non-vocational*
65			2	
66			1	
67			1	
68			3	2
69			2	1
70	2		4	2
71			4	4
72			3	5
73		1	3	2
74			3	4
75	2		7	3
76			4	4
77	2	1	3	3
78	5	1	10	5
79	8	2	6	4
80	15	3	7	12
81	13	4	9	6
82	11	7	12	7
83	15	11	5	2
84	8	11	2	10
85	8	8	10	9
86	7	4	7	10
87	7	5	2	7
88	5	8	4	5
89	6	6	1	5
90	3	5	4	4
91	2	5	4	2
92	4	12	1	2
93	1	17		3
94	1	4		2
95		3	1	
96		5		
97		2		
	125	125	125	125

[1] The table was compiled by Mr. J. J. Didcoct.

It should further be noted that most of the vocational group, of necessity, came from the larger schools whose students are found to make a better scholarship record than those from the smaller schools. On the other hand, a considerable number of the non-vocational group are from small high schools. The above results, while not conclusive, are still strongly indicative of a possible lowering of scholarship standards by a too free introduction of vocational subjects.

Along with manual arts, physical training is a very important factor in secondary education, and one which has not yet come to be recognized at its full value. Under this heading are included (1) plays, games, and athletic sports, (2) gymnastic exercises, (3) military drill. The purpose of such training, under either form, is complex. It includes hygienic and pathological considerations as well as the development of the bodily powers to their fullest and highest capabilities. The use of military drill is confined chiefly to special secondary schools for boys, commonly known as military schools. It has long been held an excellent training because of the fixing of regular habits, manliness of bearing, prompt obedience to the direction of superiors, and the development of a vigorous and healthful body under favorable conditions both as to care and exercise. Where such training is supplemented by wise use of the gymnasium and of athletic sports, including swimming, there is no doubt that great benefit may be derived from it.

There are those, however, who object to the warlike associations of such training. This very feature appeals strongly to the adolescent; but the feeling prevails among many, and is seemingly augmented from year to year, that a kind of physical training not suggestive of the more primitive attitude of warfare, but, rather, associated with peaceful pursuits and friendly contest, is the more desirable for American boys.

The exercise of spontaneous play, of games, and athletic sports bears a relationship to normal development which is

now very generally recognized. It is indeed gratifying to note the extensive provisions that are being made, in modern high school construction, for these play activities of the school. This appears in the construction of finely equipped gymnasiums, swimming pools, and such accessories as go with the out-of-door sports and games of youth. For these latter purposes more ample grounds are being provided, properly planned and equipped for the various field sports.

In very few cases, however, have we come far enough along to provide for the proper expert supervision of this phase of training in its hygienic and pathological aspects. Plays and games we have, often under most unfavorable conditions. Athletics, in recent years, have received much consideration. Few modern high schools, especially those assigned to separate buildings of modern construction, are lacking some provision for athletic training, including the necessary baths. The gymnasium and swimming pool, under competent direction, are more tardy in coming. For lack of attention to some such systematic training, most of our youth are still leaving the secondary school with their powers for motor activity in many directions either dormant or practically atrophied. Such neglect must have its effect not alone on the physical soundness of individuals, but also on the full rounding of their mental capacities; for mental and motor activities meet at the very point where will takes possession of one's powers in order to sustain a struggle, a shock, or even the ravages of disease.

From the foregoing discussion it will appear that what is sometimes denominated local interest, and is considered an important factor in determining the program of studies for the schools of a particular community, has pretty largely to do with the group of activities which we have called the manual arts and business training. The one possible exception to this is the foreign language work.

Any careful observer of communities as related to this

problem of education will doubtless agree, however, that scarcely any community represents only a single type of demand. There are communities largely commercial; yet a considerable number will represent the handicraft industries. Other communities are decidedly agricultural; yet here, again, both commerce and handicraft are likely to be concerned.

Evidently, then, a school of the people in such communities must provide more than one type of program if all are to have an equal chance for training. Further, this is in harmony with our conception of social freedom. Every boy, we say, must have a chance to prepare himself, not to be what his ancestors have been, but for the calling for which his aptitudes and sympathies best fit him. In order to accomplish such a result our schools must offer a range of work wide enough so that all, and not one or two classes of youth, shall be appealed to.

It is out of some recognition of this principle that the system of electives has come into very common use in American high schools. The adoption of the elective scheme in colleges and the rapidly broadening field of college work have had something to do, also, in bringing about this arrangement of secondary programs. The principle involved in either case, however, is that of diversity of talents and interests among pupils.

In the early part of this chapter we have discussed school activities as related to the mental and motor processes involved and to the right social adjustment of the individual. If we take these considerations as our philosophical basis for determining the balanced condition of the curriculum which any individual may elect, it is evident enough that the aim should be to direct the pupil's interests along such lines as shall save him from a one-sided and purposeless training. A moment's reflection, however, will show us the comparative safety of a rather wide range of election. The thing which is most likely to appeal to pupils of all classes is one or the

other of the vocational lines. No matter which one is chosen, however, it will lead, inevitably, first of all, to science and history; it will also lead just as certainly to at least language and mathematics. When, therefore, we consider that one of the chief purposes of this freedom is to ensnare the interest of those who come purposeless to the secondary school, the comparative safety of such a scheme, under wise direction, seems apparent enough.

To put this point in another form is to make it a plea for vocational training as a core, as a chief motivating principle for the work of the intermediate and high school grades. By vocational training is meant any line of preparation for a calling, whether that of the artisan or professional man. The idea is not to train all for a few trades but to give to each enough motor activity to pay a universal debt to nature and at the same time acquire a group of very practical and desirable judgments not written down in the books. Such vocational work then becomes the core to the pupil's curriculum in the sense that it furnishes a concrete basis on which to build one's comprehension of abstract academical materials.

Out of the materials and conditions above outlined, if one is to undertake to prepare a program of studies, there are many combinations possible. No man can say with authority that such and such a program should be made unless he knows pretty definitely the conditions and limitations of the particular school situation for which the program is to be made. There are, however, certain general principles to be kept in mind: (1) Not to undertake to include more in a program than there are teachers and material equipment for doing, and doing efficiently. (2) In selecting courses or exercises for a given school, one should have in mind the leading interests of the community as furnishing a basis for selection of such vocational work as may be undertaken. (3) In arranging any scheme of electives be sure that the fundamental social

needs are provided for. (4) Always consider carefully the possibility of securing competent teachers when any new subjects, vocational or otherwise, are being considered for inclusion in the program of studies.

The following suggestive features of programs in use are given as concrete illustrations of well-organized arrangements.

First we copy from the rules governing the election of studies in the Grand Rapids, Michigan, high schools:

The following is a complete outline, by grades, of the program of studies of the Grand Rapids High School from 7th to 12th grades:

(*a*) English.....3 years, 5 hours per week, 30 hours credit.
(*b*) Mathematics.....2 years, 5 hours per week, 20 hours credit.
(*c*) History.....1 year, 5 hours per week, 10 hours credit.
(*d*) Science.....1 year, 5 hours per week, 10 hours credit.
(*e*) Vocational subjects..1 year, 5 hours per week, 10 hours credit.

Total number of required hours, 80; elective, 70.

7-1 GRADE

English (E 1)	5
Arithmetic (M 1)	5
Geography (G 7)	4
Reading (R. 1)	1
Bench Work (Sh. 1)	3
Dom. Science (D. S. 1)	3
Dom. Art (D. A. 1)	1
Printing (Print 1)	1
Music (Mu. 1)	1
Art (Art 1)	1
	21

Elective and Special

Business Arith	5
Applied Eng	5
Latin (L 1)	5
Mech. Draw	2
German (G. 1)	5
Chorus or Orchestra	2

7-2 GRADE

English (E 2)	5
Arithmetic (M 2)	5
American History (H 1)	4
Reading (R. 2)	1
Bench Work (Sh. 2)	3
Dom. Science (D. S. 2)	3
Dom. Art (D. A. 2)	1
Printing (Print 2)	1
Music (Mu. 2)	1
Art (Art 1)	1
	21

Elective and Special

Business Arith	5
Applied Eng	5
Chorus or Orchestra	2
Printing	5 to 25
Dom. Art	5 to 10
German (G 2)	5
Latin (L 2)	5
Mech. Draw	3

8-1 Grade

English (E 3)	5
Arithmetic (M 3)	5
American History (H 2)	4
Reading (R 3)	1
Shop Work (3)	3
Dom. Science (D. S. 3)	3
Dom. Art (D. A. 3)	1
Printing (Print 3)	1
Music (Mu. 3)	1
Art (Art 3)	1
	21

Elective and Special

Latin (L 3)	5
German (G 3)	5
Mech. Draw.	3
Business Arith.	5
Applied Eng.	5
Chorus or Orchestra	2
Printing	5 to 25
Dom. Art	5 to 10
Art	5 to 10
Metal Working	2
Elementary Science	2

8-2 Grade

English (E 4)	5
Arithmetic (M 4)	5
American History (H 4)	4
Reading (R 4)	1
Shop Work (4)	3
Dom. Science (D. S. 4)	3
Dom. Art. (D. A. 4)	1
Printing (Print 4)	1
Music (Mu. 4)	1
Art (Art 4)	1
	21

Elective and Special

Latin (L 4)	5
German (G 4)	5
Mech. Draw. (2)	3
Business Arith.	5
Applied Eng.	5
Chorus or Orchestra.	2
Printing	5 to 25
Metal Working	2
Dom. Art	5 to 10
Art	5 to 10
Elementary Science	2

Note 1. — This course of study in 7th and 8th grades is offered only in those schools that have departmental organization of those grades.

9-1 Grade

English (E 5)	5
Algebra (M 5)	5
Ancient History (H 5)	5
Latin (L 5) or (L 5a)	5
German (G 5) or (G 5a)	5
Pen. and Spelling (P and S)	5
Physical Geography (S 5)	5
Bookkeeping (Bk. 5)	5
Dr. and Shop (5)	5
Freehand Draw. (Fh. D. 5)	2½
Domestic Art (D. A. 5)	5
Physical Train. (Ph. Tr. 5)	1

9-2 Grade

English (E 6)	5
Algebra (M 6)	5
Ancient History (H 6)	5
Latin (L 6) or (L 6a)	5
German (G 6) or (G 6a)	5
Physical Geography (S 6)	5
Bookkeeping (Bk. 6)	5
Dr. and Shop (6)	5
Design (Des. 6)	2½
Domestic Art (D. A. 6)	5
Physical Train. (Ph. Tr. 6)	1

Note 2.—The number opposite each subject in the outline indicates the number of recitations per week or the credit toward graduation.

Note 3.—The symbol in parenthesis indicates the abbreviation for the subject and the number of the semester in which it is given counting from the 7-1 grade.

10-1 GRADE

English (E 7)	5
Public Spk. (7)	1
Algebra (M 7)	5
Ancient History (H 5) or European History (Long Course) (H 7)	5
Latin (L 7) or (L 7a)	5
German (G 7) or (G 7a)	5
Agricultural Botany (Agr. 7)	5
Botany (S 7)	5
Zoology (Z 7)	5
Bookkeeping (Bk. 7)	5
Dr. and Shop (7)	5
Freehand Drawing (7)	2½
Dom. Sci. (7)	5

10-2 GRADE

English (E 8)	5
Public Spk. (8)	1
Ancient History (H 6) or European History (Long Course) (H 8)	5
Latin (L 8) or (L 8a)	5
German (G 8) or (G 8a)	5
Agriculture (Agr. 8)	5
Botany (S 8)	5
Zoology (Z 8)	5
Physiology (Py. 8)	5
Bookkeeping (Bk. 8)	5
Dr. and Shop (8)	5
Design (Des. 8)	2½
Dom. Sci. (8)	5

11-1 GRADE

English (E 9) or (E 9a)	5
Geometry (M 9)	5
European History (Long Course) (H 9) or European History (Short Course) (H 9a)	5
Latin (L 9) or (L 9a)	5
Greek (Gk 9a)	5
German (G 9) or (G 9a)	5
French (F 9a)	5
Spanish (Sp. 9a)	5
Chemistry (S. 9)	5
Commercial Law (C. L. 9)	5
Typewriting and Stenography (T. and S. 9a)	5
Draw. and Shop (D and S 9)	5
Mechanical Drawing (9)	5
Domestic Art (9)	5
Freehand Draw. (Fr. D. 9)	2½
Oratory (P. Spk. 9)	2

11-2 GRADE

English (E 10) or (E 10a)	5
Geometry (M 10)	5
European History (Long Course) (H 10) or European History (Short Course) (E 10a)	5
Latin (L 10) or (L 10a)	5
Greek (Gk 10a)	5
German (G 10) or (G 10a)	5
French (F 10a)	5
Spanish (Sp. 10a)	5
Chemistry (S. 10)	5
Industrial History (I. H. 10)	5
Typewriting and Stenography (T. and S. 10a)	5
Draw. and Shop (D. and S. 10)	5
Mechanical Drawing (10)	5
Domestic Art (10)	5
Design (Des. 10)	5
Oratory (P. Spk. 10)	2

12-1 GRADE

English (E 11) or (E 11a)..... 5
Solid Geometry (M 11)..... 5
American History (H 11)..... 5
Latin (L 11) or (L 11a)..... 5
Greek (Gk 11a)..... 5
German (G 11) or (G 11a)..... 5
French (F 11a)..... 5
Spanish (Sp. 11a)..... 5
Physics (S 11)..... 5
Economics (Econ. 11)..... 5
Typewriting and Stenography (T. and S. 11a)..... 5
Draw. and Shop (D. and S. 11) 5
Mechanical Draw. (11)..... 5
Housekeeping, Dom. Science (D. S. 11)..... 5
Debating (P. Spk. 11)..... 2

12-2 GRADE

English (E 12)..... 5
Trigonometry (M 12)..... 5
American History (H 12)..... 5
Latin (L 12) or (L 12a)..... 5
Greek (Gk 12a)..... 5
German (G 12) or (G 12a)..... 5
French (F 12a)..... 5
Spanish (Sp. 12a)..... 5
Physics (S 12)..... 5
Salesmanship (S'h'p 12)..... 5
Typewriting and Stenography (T. and S. 12a)..... 5
Draw. and Shop (D. and S. 12). 5
Mechanical Drawing (12)..... 5
Home Economics (Dom. Sci. 12). 5
Debating (P. Spk. 12)..... 5

The following outline of junior high school courses is from Norwalk, Conn:

SEVENTH YEAR

Manual Arts	Academic	Commercial
Periods per week	Periods per week	Periods per week
English— Spelling Penmanship..... 8	English— Spelling Penmanship.... 8	English— Spelling Penmanship..... 8
Mathematics..... 5	 5	 5
Geography..... 4	 4	 4
History and Civics.... 5	 5	 5
Elem. Ph. and Hyg.... 2	 2	 2
Dr., M. T. and D. S... 3	 3	 4
Music, Phy. Exer., Assembly 2	Music, Phy. Exer., Assembly 2	Music, Phy. Exer., Assembly 2

Eighth Year

English— Spelling Penmanship 8	English 8	English 8
Comm. and Const.	Arith. ½ year, Alg. ½ year 5	Bookkeeping and Commercial Arith. 5
Arithmetic 5	 5	 5
History and Civics 5	 2	 2
Science (Agr. and Hyg.) 2	 2	 2
Dr., M. T. and D. S... 3	.....	.....
Phy. Exer., Music, Assembly 2	.....	 2
	.....	.....
	Com. Geog., ½ yr., Latin, ½ yr. 5	
Shorter Course: Com. Geo., ½ yr., Special Assignm. ½ yr. 5		Clerical Course: Com. Geo., ½ yr., Typewr., ½ yr. 5
General Course: Com. Geo., ½ yr., German, ½ yr. 5		Com. Course: Com. Geo. ½ yr., Germ., ½ yr. 5

Ninth Year

Shorter: English... 5, Com. Arit. & B'k'g. 5, Ind. Hist. & Civics. 5, Dr., M. T. or D. S.. 5, Science... 2, Phy. Ex., Music.., Assem.. 2	English 5	Clerical: English.. 5, Com. Arit. & B'k'g... 5, Stenog.. 5, Twp.... 5, Penn.... 2
General: English... 5, Com. Ar. & B'k'g. or Alg.. 5, Germ. or Ind. H. & Civics.. 5, ... 5, ... 2, ... 2	Algebra 5	Com'ercial: English.. 5, Com. ..... 5, Germ. or I. H. & C. 5, Sci. or Dr., M. T. or D. S.. 2, ... 5, ... 2, Music.., Phy. Ex., Assemb. 2
	Ancient History... 5	
	Science or Dr., M. T. or D. S..... 2	
	Latin 5	
	 2	

The following courses are followed in Los Angeles:

COURSE OF STUDY

Intermediate Schools of Los Angeles, 1915–1916

	I Engineering Preparatory	II Mechanic Arts	III Home Economics
	Preparatory to High School courses in Engineering. Boys expecting to attend technical institutes or colleges should elect Course V.	For boys mechanically inclined who may or may not continue in school.	For girls who expect to become home makers who may or may not continue in school.
B7	1 English 5 2 Geography 5 3 Arithmetic 5 4 Mechanical Drawing 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Woodshop 4	1 English 5 2 Geography 5 3 Arithmetic 5 4 Mechanical Drawing 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Woodshop 4	1 English 5 2 Geography 5 3 Arithmetic 5 4 Bookkeeping, Stenography or Foreign Language 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Cooking 2 10 Sewing
A7	Same as B7 except History instead of Geography.	Same as B7 except History instead of Geography	Same as B7 except History instead of Geography.
B8	1 English 5 2 History 5 3 Algebra 5 4 Mechanical Drawing 5 5 Oral English 2 6 Physiology and Hygiene 2 7 Physical Training 2 8 Woodshop 4	1 English 5 2 History 5 3 Mechanical Drawing 5 4 Bookkeeping, Stenography or Foreign Language 5 5 Oral English 2 6 Physical Training 2 7 Physiology and Hygiene 2 8 Woodshop 4	1 English 5 2 History 5 3 Freehand Drawing 5 4 B7 elective continued 5 5 Oral English 2 6 Physiology and Hygiene 2 7 Physical Training 2 8 Cooking 2 9 Sewing 2
A8	Same as B8 except Music instead of Oral English, and History and Civics instead of History.	Same as B8 except History and Civics instead of History, and Music instead of Oral English.	Same as B8 except History and Civics instead of History, and Music instead of Oral English.
B9	1 English 5 2 General Science 5 3 Algebra 5 4 Mechanical Drawing 5 5 Music or Oral English 2 6 Physical Training 2 7 Woodshop 4	1 English 5 2 Mechanical Drawing 5 3 B8 elective continued 5 4 Music or Oral English 2 5 Physical Training 2 6 Woodshop 10	1 English 5 2 Freehand Drawing 5 3 B7 elective continued 5 4 Music or Oral English 2 5 Physical Training 2 6 Cooking 5 7 Sewing 5
A9	Same as B9 except Geometry instead of Algebra.	Same as B9.	Same as B9.

COURSE OF STUDY

INTERMEDIATE SCHOOLS OF LOS ANGELES, 1915–1916

IV Commercial	V Literary — Scientific	VI General Elective
This course is intended to prepare pupils either for the Commercial Course in High School or to enter Commercial Work if they cannot continue in school. Pupils excused from Penmanship may substitute another subject in A8 grade.	This course leads to High School courses preparatory to Colleges of Letters, Science and Technology.	For supplies who want to try several lines of work. This Course will not fit pupils for all High School courses without some loss of credit.
1 English 5 2 Geography 5 3 Arithmetic 5 4 Stenography or Bookkeeping 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Manual Training 4 Boys — Woodshop Girls — Cooking and Sewing	1 English 5 2 Geography 5 3 Arithmetic 5 4 Latin, German, French or Spanish 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Manual Training 4 Boys — Woodshop Girls — Cooking and Sewing	1 English 5 2 Geography 5 3 Arithmetic 5 4 Bookkeeping, Stenography, or Foreign Language 5 5 Penmanship 2 6 Drawing 2 7 Music 2 8 Physical Training 1 9 Manual Training 4 Boys — Woodshop Girls — Cooking and Sewing
Same as B7 except History instead of Geography.	Same as B7 except History instead of Geography.	Same as B7 except History instead of Geography.
1 English 5 2 History 5 3 Bookkeeping 5 4 Stenography 5 5 Oral English 2 6 Physiology and Hygiene 2 7 Physical Training 2 8 Penmanship 4	1 English 5 2 History 5 3 Algebra 5 4 Foreigr Language 5 5 Oral English continued 2 6 Physiology and Hygiene 2 7 Physical Training 2 8 Manual Training 4	1 English 5 2 History 5 3 Algebra, Drawing, Bookkeeping or Stenography 5 4 B7 elective continued 5 5 Oral English 2 6 Physical Training 2 7 Physiology and Hygiene 2 8 Manual Training 4
Same as B8 except Music instead of Oral English.	Same as B8 except Music instead of Oral English, and History and Civics instead of History.	Same as B8 except History and Civics instead of History, and Music instead of Oral English.
1 English 5 2 Commercial Arithmetic 5 3 Bookkeeping 5 4 Stenography 5 5 Music or Oral English 2 6 Physical Training 2 7 Ancient History, General Science or Penmanship 5	1 English 5 2 Greek History or General Science 5 3 Algebra 5 4 Foreign Language continued 5 5 Music or Oral English 2 6 Physical Training 2 7 Manual Training or Drawing 4	1 English 5 2 B8 elective continued 5 3 B7 elective continued 5 4 Music or Oral English 2 5 Physical Training 2 6 Ancient History, General Science or Commercial Arithmetic 5 7 Manual Training or Drawing 6
Same as B9.	Same as B9 except Roman instead of Greek History, and Geometry instead of Algebra.	Same as B9 unless Algebra is completed, then Geometry or B9 Arithmetic instead of Algebra.

The Los Angeles intermediate and high schools furnish a very interesting study of types of programs. The programs of the Los Angeles high schools are too elaborate to be presented here in complete form. The following is a summary, by titles, of the different curricula provided by the different high schools. It should be understood that each high school in itself represents a distinct differentiation.

I. The Los Angeles High School, the parent high school of the city, is distinctively the academic, classical, and cultural high school of the city. It offers the following curricula:

1. Seven different curricula to prepare for the different departments of University work at the University of California, Stanford, and eastern colleges:
   (*a*) College of letters; (*b*) College of social science (2); (*c*) College of natural science and agriculture; (*d*) College of commerce; (*e*) College of engineering and chemistry; (*f*) Architecture.
2. Two additional curricula also prepare for Stanford:
   (*a*) Music; (*b*) General.
3. A curriculum of "Fine and applied arts" prepares for Mark Hopkins, Pratt Institute, and Chicago Institute of Arts.
4. An elective program in which one year of mathematics must be taken. This high school also offers two years of junior college work open to students from all city high schools and the work of which is accepted by the universities of the state.

II. The Polytechnic High School is the technical high school of the city. It offers the following curricula:

1. Commerce. 2. Home Economics. 3. Electrical Engineering. 4. Mineralogy. 5. Civil Engineering. 6. Art. 7. Mechanical Draughting. 8. Architecture. 9. Music. 10. Industrial. 11. Dressmaking and Millinery. 12. Chemistry. 13. Mechanical Engineering. 14. General Elective. 15. College Preparatory, A and B. 16. Journalism.

III. The Manual Arts High School is a composite high school. The following curricula are offered:

1. Engineering. 2. Mechanic Arts. 3. Home Economics. 4. Fine Arts. 5. Scientific. 6. Literary. 7. Commercial. 8. Elective.

IV. The Hollywood High School is a distinctly cosmopolitan school, with home economics as a prominent feature. The curricula are:

1. College Preparatory, University of California. 2. College Preparatory, Stanford. 3. General College Preparatory. 4. Engineering Preparatory. 5. Scientific. 6. English. 7. Commercial. 8. Language and Music. 9. Home Economics. 10. Art. 11. Mechanic Arts. 12. Agriculture.

V. The San Pedro High School emphasizes marine interests. The curricula offered are:

1. Literary. 2. Engineering Preparatory. 3. Scientific. 4. Commercial. 5. Home Economics. 6. Marine Engineering. 7. Mechanical.

VI. The Gardena High School is agricultural in character. It offers the following curricula:

1. Agricultural. 2. Home Economics. 3. Literary. 4. Engineering Preparatory. 5. Normal Preparatory. 6. Two-Year Agricultural.

VII. The Wilmington High School is a small school offering three curricula:

1. Commercial. 2. Literary. 3. Scientific.

VIII. The Lincoln High School, the most recent one opened, is of distinctly cosmopolitan type, with curricula as follows:

1. College Preparatory. 2. Engineering Preparatory. 3. Home Economics. 4. Music. 5. Commerce. 6. Manual Training.

Besides the above there are two evening high schools offering a wide range of subjects.

A careful survey of the above outlines will readily convince the reader of the broad and generous character of the provisions made by the people of Los Angeles for the various needs of the cosmopolitan population of their rapidly growing city. The statistics given above are from the 1914–15 edition of the courses of study in Los Angeles.

The Binford Junior High School of Richmond, Virginia, offers the following program, arranged in three curricula:

YEARS	GENERAL		PREVOCATIONAL		COMMERCIAL	
	Required Subjects	Periods per week	*Required Subjects*	Periods per week	*Required Subjects*	Periods per week
FIRST YEAR or IA and IB	English Literature	3	English Literature	3	English Literature	3
	Composition Grammar, and Spelling	4	Composition, Letters, and Forms, etc.	4	Composition and Elementary Grammar	4
	United States History	3	United States History	3	United States History	3
	Descriptive Geography	3	Descriptive Geography	3	Descriptive Geography	3
	Arithmetic	5	Arithmetic	5	Arithmetic	5
	Physical Training and Hygiene	1	Physical Training and Hygiene	1	Physical Training and Hygiene	1
	Penmanship	1	Penmanship	1	Penmanship	1
	Music	1	Music	1	Music	1
	Drawing	1	Drawing	1	Drawing	1
	Girls—Cooking or sewing	3	Girls—Cooking or Sewing	3	Girls—Cooking or Sewing	3
	Boys—Manual Training	3	Boys—Woodworking	3	Boys—Woodworking	3
	Electives		*Electives*		*Electives*	
	May select ONE of the following:		May select ONE of the following:		Must select ONE of the following:	
	Elementary Science	5	Elementary Science	5	Writing or Typewriting No. 1	5
	French	5	Writing or Typewriting	5	Freehand Drawing	5
	German	5	Freehand Drawing	5	Study Period	5
	Spanish	5	Hand Type Setting	5	Business English	5
	Latin	5	Carpentry	5		
	Practical English	5				
	Required Subjects	Periods per week	*Required Subjects*	Periods per week	*Required Subjects*	Periods per week
SECOND YEAR or	English Literature, and Penmanship	4	English Literature	4	English Literature	4
	Composition, Grammar and Spelling	4	Composition, Letters, Forms, etc.	3	Business Correspondence and Penmanship	4
	United States History and Civics	3	United States History and Civics	3	United States History and Civics	3
	Descriptive Geography	2	Geography	3	Geography	3
	Arithmetic	5	Arithmetic	3	Arithmetic	5
	Physical Training and Hygiene	1	Physiology and Hygiene	1	Physiology, Hygiene, and Physical Training	1
	Drawing	1	Physical Training	1	Typewriting No. 1	5
			Spelling and Penmanship	2		
	Electives		*Electives*		*Electives*	
	Must select ONE and may select TWO of the following:		Must select TWO of the following:		Must select ONE of the following:	
	Elementary Science	5	Elementary Science	5	Elementary Science	5

IIA and IIB	French 5	French 5	French 5
	German 5	German 5	German 5
	Spanish or Latin 5	Spanish 5	Spanish 5
	Typewriting 5	Writing or Typewriting 5	Cooking or Sewing 5
	Cooking or Sewing 5	Cooking or Sewing 5	Freehand Drawing 5
	Mechanical Drawing 5	Freehand Drawing 5	Music 5
	Algebra 5	Mechanical Drawing 5	Woodworking 5
	Music 2	Shop Mathematics 5	Bookkeeping and Business Practice 5
	Manual Training 5	Music 5	
	Penmanship 2	Home Economics 3	
	Practical English 5	Imposition of Forms 5	
	Commercial Geography 3	Carpentry 5	

	Required Subjects	Periods per week	*Required Subjects*	Period per week	*Required Subjects*	Periods per week
	English Literature and Composition ..	5	English Literature, Letters, Forms, etc	5	English Literature	4
	Arithmetic	2	Shop Mathematics	5	Business Correspondence	3
					Commercial History and Geography ..	5
					Typewriting No. 2	5
					Bookkeeping and Business Practice ...	5
					Penmanship and Spelling	2
	Electives		*Electives*		*Electives*	
THIRD YEAR or IIIA and IIIB	Must select THREE and may select FOUR of the following:		Must select FOUR and may select FIVE of the following:		Must select ONE of the following:	
	French, German, Spanish, or Latin ..	5	French, German or Spanish	5	French, German or Spanish	5
	Business Arithmetic	5			Elementary Algebra	5
	Algebra	5	Industrial History and Geography ...	4	Constructive Geometry	5
	Physical Geography	5	Freehand Drawing and Designing	5	Science	5
	Commercial Geography	3	Mechanical or Architectural Drawing	5	Mechanical or Freehand Drawing	5
	History—Greek and Roman	5	Cooking, Sewing, or Millinery	5		
	Mechanical Drawing	5	Wood, Metal, or Electric Work	5	Cooking or Sewing	5
	Freehand Drawing	5			Woodwork	5
	Cooking or Sewing	5	Music	5		
	Woodwork	5	Physical Education	1		
	Music	1	Bookkeeping and Business Practice ..	5	Music	5
	Physical Education	1	English, Public Speaking, etc	5	Physical Education	1
	Bookkeeping	5	Penmanship	1		
	Penmanship	1	Typewriting	5	English—Public Speaking	5
			Elementary Physics	5		
			Elementary Chemistry	5		
			Practical Nursing	5		
			Printing	5		
			Bookbinding	5		

CHAPTER XVI

THE TECHNIQUE OF TEACHING

The technique of teaching involves the application of the general principles of class management and something more. First of all there are certain formal matters to be cared for, which involve no other principle than that of economy of time and resources. Certain things are to become habitual, matters of routine purely, so as to gain time for the regular work of the class. Class movements in connection with any given recitation subject or exercise belong to this group of activities, to be reduced as quickly as possible to a routine basis. So, likewise, is the manipulation of crayon, compasses, rule, and eraser at the blackboard or drawing table; of apparatus or chemical and biological supplies in the laboratory; of tools and materials in the shop.

The important thing is to start at the very beginning to inculcate right habits in all these things. Delay or variation during the early weeks will inevitably result in the development of bad habits to be eliminated and replaced, thus doubling the difficulty. The first thought of the teacher should be so to organize and present these things from the first as to lay a sure foundation for their habitually correct accomplishment.

The art of instruction properly applies directly to the conduct of the class work with reference to the materials and exercises involved in the teaching process. Here is where the method, the technique of teaching, is the leading factor. Into this process there should enter not only the principles of management as previously discussed, but also the personal element in method. This is the part which may not be written

down in books or expressed in rules and principles. In this sense method, technique, cannot be transmitted. It may be presented as illustration or example; but the teacher who would use it successfully must first adapt it to her own thought-habits, her own order of application, her own habits of manipulation — in short, make it her own.

Instruction is often classified according to the forms it may assume, as the lecture method, the quiz, the development method, and the laboratory method. But which of these are to be employed, and when, will depend upon the individual teacher's method of organizing and presenting materials. This, in turn, may depend upon the needs of a given class, the exigencies of material equipment, or the time that can be devoted to a given assignment. In other words, there are immediate readjustments to be made for which no formulated principle could prepare. There must necessarily be applied here the factor of the individual judgment and initiative of the teacher.

There is probably no subject of high school instruction which may not call for the use, at times, of the lecture method. The extent to which it may profitably be used will vary with the nature of the subject, but should never be very great in any case. The quiz is well adapted to a review of lecture or laboratory work or work in the shop or in the field. The extent of its use will also vary with the nature of the subject and of the particular aspect of the subject that may be under consideration.

A very important feature of high school work is the laboratory method of instruction. We usually think of this as applying especially to natural science courses, probably because of the extensive equipment generally required for it. In connection with such courses as physics, chemistry, biology, agriculture, geography, domestic science, we think of it as a matter of course. The fact is, however, that this method may apply to almost any course, but especially to

content material as distinguished from expressional work. There is a sense, in fact, in which the supervised study plan may very properly be considered laboratory work, as Superintendent Brown, of Joliet, Illinois, calls it.

Most of the commercial work in high school is best treated by this method. Certainly all history work, including the history of literature and other arts, may be presented most advantageously in this way. Undoubtedly much history work would be better done if teachers of this subject would take more time with the pupils in the library, where they are presumably learning how to apply their mental powers to "thinking through" the lesson assignments in connection with and by means of the reading assignments. A little personal guidance here, if rightly applied, may greatly enhance the pupil's possibilities of success and also aid in making him independent in future studies involving a use of the reference library.

The development method is also likely to find extensive use in the high school. The method will frequently serve a good purpose in study plans as well as in the recitation. It is a method which involves primarily the application of thinking to the solution of problems. In its application will be found use for both inductive and deductive processes of reasoning. The teaching technique, in this case, will involve the training to a skillful use of these processes, singly or in combination, in arriving at general truths. It is needless to say that all these methods will apply to laboratory and shop work as well as to the discussion of descriptive materials or philosophic discussions.

Another interesting phase of technique appears in the teacher's art of questioning. This applies not only to the daily recitation but also to the review or examination. Discussions of this phase of the subject are almost too trite to find place here. Yet even after all that has been written on the subject, how few teachers one will find who are really

strong in this art. To succeed well in questioning requires something more than a knowledge of the subject matter in the field to be covered. One must also have a clear purpose in view, — the unfolding of a line of thought, the development of a clear conception to be attained by successive and well-articulated questionings. There needs to be, moreover, a quick sensing of the state of mind of the pupil with reference to the problem in hand; otherwise the question calculated to clear the obscurity or to lead to the next step toward comprehension will fail in its purpose.

Reference has already been made to the importance which attaches to the art of assigning lessons. As related to technique, this may follow one or more of several methods. The assignments may be entirely by means of a textbook, by indicating just what pages are to be made the basis of preparation. There are, of course, occasions where such an assignment would be quite in keeping with good technique. But if all lessons should be treated in a similar way, either for the same subject or for different subjects taught by the same person, there would be just ground for assuming that the teacher's technique was bad.

Another method of making assignments is that of dictating to pupils, with such explanatory comments as may seem desirable, the topics to be studied and also the special references to be reviewed. This method naturally presumes that the teacher has thought out carefully the details of the assignment, and has planned with reference to a definite aim. This is a good method, in that it means a more or less careful weighing of materials in order to be able to bring out in the discussion the most important facts and conclusions. A variant of this method is the furnishing by the teacher of a carefully prepared outline as a basis for investigation. This gives the pupil a ready-to-hand basis for study and investigation, thus preventing any errors that might creep in through careless copying of notes from dictation.

The present plan of dealing with technique is to consider it by subjects as taught in high schools, especially the academic groups. The following chapters will therefore undertake to give points in the technique of teaching as noted in connection with extended visitation of high schools. The comments under each heading will be introduced by a brief statement of the principles involved from the standpoint of the teacher and the criteria by which teaching technique is to be judged from the standpoint of the supervisor. It is believed that such a plan, with the field notes, may prove helpful to both teachers and supervisors.

CHAPTER XVII

NOTES ON THE TEACHING OF ENGLISH

I. Principles of management involved:

1. In literature a clear understanding of the appeal which it will make to the pupils.
2. The adaptability of the selections to be studied to the grade of pupils to be taught, — a basis for interest in experience.
3. Literature appeals to the emotions rather than to thought with pupils of high school age, — suggesting motive.
4. In composition pupils should write about things that they know and in which they are interested.
5. They should feel that they are writing for an audience, — motive.
6. Clear thinking an essential feature in writing. Complete analysis of the subject should precede any attempt at expression.

II. Criteria for judging from the standpoint of supervision:

1. In literature, evident mastery of the classic to be read and appreciation of its possibilities for the particular class.
2. Understanding of aims in teaching literature.
3. Understanding of the real problems in teaching English composition and the means at hand for meeting them.
4. Ability to select forms of composition that relate to present interests of pupils, — to find a motive.

Because it is so fundamental, and because it is the chief bond between the elementary school and the high school, the management of language teaching may very properly claim our first attention. There are the two well-known aspects of this phase of high school instruction, the mother tongue, or English, and the foreign languages. These are inseparably related in the learning process, but the approach and treatment differ materially.

In aim they both have for their purpose increased power and facility in expression on the one hand, and the acquisition of a basis for the interpretation of literature on the other. Training in English and its literature has, as a distinctive aim, the acquisition of the vernacular as a matter of every-day social usage, together with the perpetuation, from one generation to another, of race and national ideals as they have found expression in literature. Foreign language differs a little in this respect. As to social usage, it has only a restricted value; while in the literature it opens to the learner we find a basis for the comparison of ideals, for the cultivation of international sympathy, and for the ready transfer of the results of experimentation, invention, and research in the arts and sciences. Perhaps we may say that they affect each other more by interaction in comparison than in any other respect. They differ in form more than in content, although not a little in the latter respect also.

The approach is radically different. In the case of the mother tongue the acquisition of language power and the use of it in thought processes have been unconscious and spontaneous. In the learning of a foreign language, on the contrary, there is involved, from the very beginning, a conscious effort. The chief difficulty lies in learning how to transfer the association of one's ideas with word symbols to an entirely new system of symbolism, both auditory and visual. Yet to be able to think in the foreign tongue, and therefore to

converse freely or appreciate a literary production, such transfer must become ready and complete.

As a result of this difference in approach the treatment must vary somewhat. It is probably true, however, that the nearer we can approach, in the treatment of a foreign language, the processes by which the mother tongue is acquired, the more readily will the new language be acquired. On the contrary, the prevailing treatment of a foreign language begins with the study of the structure of the language with the purpose of acquiring its use through the application of rules and a knowledge of its inflections. This same formal treatment has also been generally adopted as a means of correcting the child's use of the vernacular, with results not always commensurate with the pains involved in the process.

The natural incentives are about identical except as to intensity. In this respect the English has the advantage, although at first the added curiosity because of strangeness helps on the side of the foreign language, especially with younger children. The fundamental incentive is in the social nature of language. In all efforts to stimulate the desire for more correct use of language the most powerful appeal is on this social side. The utilitarian appeal, also social, has considerable weight with high school students when presented in a concrete way. The appeal to the pupil's esthetic sense is very apt to be overworked in the early stages of high school training in the use of English. If this is to come at all, it is by cultivation of appreciation in the reading of good literature, and is apt to be, with the majority of individuals, a matter of slow growth at best.

Starting with that which concerns us most nearly and universally we may first direct our attention more particularly to the teaching of English. In this we readily recognize two lines of work closly related when we are thinking of aims and incentives, yet quite distinct as to content and treatment. There is the composition work with its formal study accom-

paniment of rhetoric; and there is the reading of literature with its formal study accompaniment of history, mythology, and biography, with also some application of rhetoric.

Let us consider first the reading of literature, for this carries over most directly and forcefully from the elementary grades to the high school. In any well-organized school system of today the pupils will have read a number of complete classics before entering the high school. If they have been reasonably well taught they should have mastered the vocabularies of these selections up to the capacity of their experience as to the content they can give to the words; they should also have acquired reasonable facility in ordinary oral interpretation of the writer's thought and feeling as far as they are able to comprehend them. This, again, is a matter of experience as a basis for understanding.

Now let us consider one or two concrete cases of this work. The following cases were observed in the eighth grade reading work of two village schools, each supporting a four-year, accredited high school. In the first instance, the English teacher of the high school was teaching the "literature" of the eighth grade. The teacher was one of considerable experience and with a university training. The story to be read was one by Charles Dudley Warner, a charming account of a fishing exploit. A majority of the class were boys, and the selection seemed admirably adapted to the situation. "What an opportunity," you would say, "for awakening interest and enthusiasm on the part of such a group of nature lovers." But alas, no! The teacher had evidently given the lesson no thought. The beauty and life of the story were lost. The time was spent in careless, unspirited reading of paragraphs, followed by questions as to the meanings of words about which the teacher herself was uncertain. In other words, the natural approach and incentives were ignored; the lesson was made a task, dry and uninspired; the teacher had lost sight of the aim. For incentives she used sarcasm in crit-

icism, and added a threat of lowered grades as a climax to the whole dismal affair. Here was a striking illustration of what happens when a teacher overestimates the all-sufficient qualities of a "finished" education.

The second case was that of an eighth grade teacher with a room full of children to be kept at work or interested. She was a product of the home school, with such added resources of training as she had been able to get by institute work, home study, and summer work. Her experience was extensive but not broad. The selection was "The Story of Our Flag," an everyday "reading lesson." She began by clearing away the difficulties of pronunciation and meanings of words which the pupils had been led to discover for themselves. Then she led the class into a discussion of the story, the incident in our history, the historic characters and places, and the origin of the ideas embodied in the flag. All seemed interested, the discussions were spirited. The teacher revealed her lack of breadth in training in dealing with the difficult words; but the technique of the recitation and the results were far superior to those in the first case. She had prepared the best she could for that particular lesson. The assignment had evidently been better made. The treatment was in harmony with the aim of the recitation as well as with the nature of the selection to be read.

Here we have illustrated an important feature in the setting of the high school problem of the effective reading of literature. Still another is found in a case like the following, recently observed in a city high school. The class was a first year class that had entered in September. They were reading a very choice classic from an American poet. The same classic had been read in the seventh grade, yet the teacher's treatment of it and the character and aim of her questioning were evidently a duplication of what must have been done in the earlier reading. The class was indifferent, spiritless, perhaps we might properly say *blasé*. And why? Evidently

because the approach was wrong, the treatment did not discover for the class, or lead them to discover, new interests in the poem.

Knowing the facts as she did, would it not have been better not to have offered the poem at all than to have presented it in such a way? In any case it is possible that postponement to a later date in the course might have been better.

There is, perhaps, no more difficult task in high school teaching than the successful management of the study of literary classics. Certainly there is no greater opportunity, on the one hand, for waste of time and cultivation of wrong attitudes and habits; or, on the other, for the cultivation of a rich field, which shall yield much to the awakened pupil, not only of present gain and satisfaction, but also of perennial freshness and growth throughout life, because of a real liking acquired for the fine things in literature, both classic and current.

It is this quality of appreciation which is so difficult to cultivate in the adolescent mind, yet without which most of the time spent in these literary readings is lost, or worse than lost.

And how is the desired result to be accomplished? What are to be the incentives to the study of this field of art, so rich and full for the willing gleaner? Certainly no temporary or artificial incentive can be relied upon for permanent results. The appeal must come early to the interests which are deepest and strongest in youth — the awakening to the meaning and promise of life, the assertion of the social instincts, the altruistic attitude, the love of action and achievement. No longer is the drill exercise of the elementary school available as the chief factor in the process. It is true that details of vocabulary, figures of speech, myths, historical allusions, must be understood as a basis for interpretation; but good technique will require that all this be got through with as a preparation for the real reading of the selection.

As an instance, here is a freshman class reading *Sohrab and Rustum*. What a charming story when once the way is cleared for its understanding and appreciation! Here are lofty sentiments of patriotism, high courage, filial affection, the recognition of heroism even in an enemy. But the names, the scenes, the ideals, even, are oriental, unfamiliar, difficult. Fortunate is the teacher if the edition contains a usable pronouncing glossary. History and descriptive geography, or some modern traveler's notes, will furnish the further requisites by means of which the skillful teacher will prepare the way, in a cursory scanning of the poem, for the more direct and serious consideration of the story itself. To spend too much time in getting each pupil into line on these particulars of interpretation will be likely to prove fatal to the real purpose of the reading. Fineness of sentiment and loftiness of motive are the things which should appeal to the pupils in this selection.

Another instance is that of a third year class beginning the reading of *Il Penseroso*. Here the powerful suggestiveness of the title must play its part in preparing the pupils' minds for the strong qualities in the author's art. All words and allusions depicting local colorings, the mythology of the poem, the historic characters alluded to, must be understood and their part comprehended as they appear in this imaginative picture of a mood of human kind painted in contrast to the companion poem *L'Allegro*,— which has doubtless preceded this one in the reading, — if the pupils are to get into the real movement and charm of the poem.

If the assignments are well made, the pupil's study hour will have enabled him to get some phases of this work well out of the way. This will call for definiteness in outlining the work the pupils are to do, with specific references to collateral readings. Only by repetition in this respect, practically throughout the high school course, will good study habits be formed. How to cause the sidelights to be consulted in such

a way as to bring out the fine treatment of the artist in his masterpiece should be the aim in all such assignments. Too often this work degenerates into a dull, heavy process of loading up with a mass of unrelated and meaningless facts. In such cases the result upon the pupils is repulsion rather than appreciation.

A word of caution may be needed as to the extent to which a selection may be analyzed or dissected in the preliminary survey without destroying its beauty and significance. There seem to be conflicting opinions here. Some English teachers are horrified at what they consider little less than the vivisection of a poem by those who make use of such complete wholes in art as a means of fixing the principles of grammar and rhetoric. Now it may be unfortunate that, sometimes, little less than this in the way of analysis will suffice in order to make the meaning comprehensible; but when such necessity exists the training must somehow precede correct interpretation and therefore appreciation. Possibly this training were better given in practice upon some more insignificant materials. Given it must be, somehow and somewhere.

In this connection the writer remembers his own experience in the first year of his high school training, upon which he entered "fresh and green" from the country school. From the meaningless study of definitions, rules, and "parsing" in English grammar he was permitted to enter upon English analysis as presented in Greene's once familiar text, a text which dealt with the study of language as a preliminary to logic. As a part of this work we were required to "analyze" Gray's *Elegy*. Sentence by sentence we dissected this beautiful poem into phrases, clauses, the various component parts of all kinds of sentences. As a result of that study under the direction, to be sure, of a sympathetic, art-loving teacher, some of us acquired a real love for poetry although before it had awakened no interest in us.

After all, it is the technique, the approach, the sympathetic

touch of the teacher that saves the day, whether by the route of "dissection" or otherwise. Perhaps nowhere else in the literary readings of the high school does this hold true so completely as in the study of the drama. No more inane process can be imagined than an aimless, spiritless, uncomprehending rehearsal by a class of the dialogue of one of Shakespeare's matchless productions.

Here is a study in human motive. Here desire, ambition, love, hate, undying fidelity, and patriotism are portrayed in action, — projected, as it were, upon a screen for our inspection, our enlightenment. There are the little side-plays and interpolations of the artist in getting over the difficulties of staging in action extending over so much time and involving so many counter-influences. These must be understood and disposed of. A preliminary survey and discussion will bring out the significant points in the purpose of the drama.

Then if there is to be a reading it should approach as nearly as possible the impersonating of the characters by members of the class. Frequently the actual staging of some typical portion of the drama will do more to reveal its significance than many mere desultory readings. Often a real appreciation of the drama has been evoked by such a treatment. A case in point is that of an eighth grade class which came out of a dramatization of the trial scene in *The Merchant of Venice* with a genuine appreciation of the Shakespearian drama as presented on the modern stage.

After all, when we consider the aims which summarize what society ought to expect from the teaching of literature in our high schools, what is it that we should seek to establish in the minds of the boys and girls? We have spoken of appreciation of those things which are fine and high in literature. But is that enough? Should not the pupils know enough about the great literary types — lyric and epic poetry, the drama, the essay, the oration, the novel — to be able to judge their counterparts today? Should they not understand

the part that each of these has played in the history of the race, — the part they play today, and why? Should there not be more of comparative study, both of ancient types and those of recent years?

It would seem as though there might be a distinct gain to the pupils and to society if the teaching of literature lent itself more definitely to such an accomplishment. To know the moving power of poetry in song; to understand something of the molding influence of the stage in different times; to compare the essayists of today with those of the days of Addison and Steele; really to understand the wonderful versatility and power of the modern novel — what better things can we inculcate as equipment for social efficiency?

To accomplish such a result we must have our pupils read more widely in each particular field, with a direction sheet in hand to indicate what things they are to weigh in their reading. Too much of the ordinary historical study of literature is aimless and dull — an endless cataloguing of dusty facts unorganized about any central ideas of accomplishment. The text in the history of literature should be more a compendium for reference throughout three or four years than the sum-total of material for many and daily recitations. There is too much waste in such a process.

In English composition we have problems differing distinctly from those presented by the work in reading and literary study. Yet we are not to forget that these two aspects of high school English are closely related and interwoven. In the critical study of each masterpiece the pupils are getting accustomed to take note of those finer forms of expression which make for both clearness and elegance. They are constantly reminded of the importance of good diction and of well-formed sentences. On the other hand, every effort at formal written expression on the part of the pupil cannot fail to put him more and more in an attitude of appreciation of the directness, clearness, and beauty of expression as used

by the masters of the art. The tactful teacher will make good use of both these relationships.

It is a matter of serious regret that so many of our high school students come to this phase of their training in the language arts without having a reasonably sure hold upon the contributory arts of spelling and penmanship. There are undoubtedly many cases in our high schools where a good "setting up" drill in these very necessary arts should form an important feature in the first semester's work. If this is not done many pupils, finding their first efforts too freely "red marked" on account of defects in spelling or writing, are likely to become discouraged and to assume an attitude of dogged indifference at the very outset. In such cases it will be found exceedingly difficult, if not quite impossible, to arouse sufficient interest in the work to produce any other lasting effect upon their exercise of the art of expression in writing.

The chief aim of instruction in the art of writing should ever be kept in view. The possibility of a literary genius in the making is rare. The fundamental need of all, whether literary geniuses or laymen, is to be able automatically to follow good usuage in sentence construction, in choice of words, in ready use of all the accessories of arrangement and detail in writing. True it is that no opportunity should be lost of finding and encouraging any promising candidate for the rôle of genius, or even near-genius. But by far the greater part of the teacher's time and care should be devoted to disciplining all, to the extent of their respective capacities, in those essentials named above, without which progress, in any case, must be unsatisfactory.

With some such clear purpose in mind we approach the problem of selecting and presenting the materials necessary for such training. Just here it should be borne in mind that thought and expression, other than mere imitation, are inseparably related in the language process. Whatever is undertaken, then, aside from mere illustrative exercises,

should be an effort to express what the individual pupil really thinks or feels with sufficient positiveness to carry him over the early difficulties of acquiring an easy habit in writing.

This brings before us the necessity for motive in any writing to be undertaken — a vital factor which seems to be overlooked by a great many of those who undertake to teach composition. All language springs from the impulse to express thought or feeling. To undertake to secure expression, in good form, about some merely formal topic, assigned without reference to the pupil's interests and experiences, is to go directly contrary to this fundamental psychic law of language, thus doubling the difficulty for the pupil. It is hard, at best, for most pupils to acquire good form in writing. They usually have all sorts of bad habits of speech to contend with. The aim should be to keep them entirely within the field of interest and experience until some readiness of written expression is acquired with the substitution of correct form for the habitual crudities of speech which they may have unconsciously acquired.

In this connection it is well for the teacher of composition to coöperate with the teachers of content subjects, such as history and science. In these fields of daily interest and contact will be found abundance of materials. Such written work will not only develop expressional power, and good form, but it will also strengthen the pupil's hold on these other subjects of study. Instead of calling separately for much of the written work usually asked for in history and science, the teachers of these subjects might leave such requirements to be met in the composition exercises assigned by the teacher of English.

Another excellent source of materials which supply their own motive is to be found in the out-of-school interests of the pupils. In order to utilize this source to good advantage the teacher will need to cultivate the acquaintance of individual

pupils with reference to their interests in life other than those which center in the school. Nor should imaginative subjects be overlooked. One of the most powerful incentives to effort in composition will be found in the exercise of the creative imagination. It was a happy thought of that teacher who, the other day, gave as a topic for composition this idea: "Imagine the wind to be a person and write of his acts." It is easy to see what a variety of interesting results might come from such an appeal to the love of invention so commonly characteristic of boys and girls at the age of fourteen or fifteen.

Just a word here in regard to the different forms of composition. Many teachers who can get along very well with narration and description utterly fail in teaching exposition or argumentation. It is probably true that if a reason for such failure were to be sought it would most frequently appear in the fact that the teacher lacks skill in the approach, and also in the selection of materials for such work.

These types of composition represent an advanced stage in the art of sustained discourse, both in speech and in writing. The approach should be gradual, and by the oral route. The subjects should be the simplest possible that will lend themselves readily to such treatment, and should represent strongly the pupils' interests. The aim at first should be to furnish a relatively strong motive for the comparatively simple and brief exercise. The history lesson, a result obtained in laboratory work, the games of the season, or a new and interesting book or motion picture will furnish excellent topics for either form. It will be greatly to the advantage of the work in several forms of composition if the pupils are organized for special literary exercises. In this way the essay, the debate, story telling, an occasional poem perhaps, or an attempt at dramatization of some event in history, or in current affairs, or of some scene from a popular novel, may become realities in the experiences of the pupils as concrete forms of the various

types of literary composition which they are expected to attempt as a part of their school training.

We have referred to the use of oral work as an approach. This may well be more extensively used in all forms of composition. It is the psychological "line of least resistance," because it conforms to the order of acquisition of the language arts by the race. Then, too, a skillful treatment of composition work will include ample provision for the individual pupil's needs and interests. This will come in the selection of materials and especially in criticism. One well used period of personal consultation over a piece of work for each individual of a class, if tactfully done, will doubtless accomplish more than double the same amount of time in the aggregate given to the class in general.

This does not mean that there should be no such general criticism. Most of the minor details as to construction may be better cared for in this way, perhaps, than by laboriously marking papers or spending any part of the precious moments of the consultation period on such matters. The personal guidance should rather be given to such details as the pupil's organization of his thought; the directness and clearness, or otherwise, with which he has unfolded his theme and revealed his purpose or course of reasoning.

Careful discrimination should be used in assignments with reference to the kind of approach the pupil is expected to make; whether, in short, the exercise is to be spontaneous or deliberate in character. The most difficult thing of all is to secure sustained thinking and its corresponding expression; for this, after all, is the chief goal of English composition for the greater number of those who will ever feel called upon to use it outside of ordinary business communications. To this end the aim should be gradually to increase the length of the effort, with a corresponding decrease in frequency of assignments. Work of a spontaneous character, either oral or written, should be used frequently and throughout the high school period. But

work calling for deliberate treatment should be assigned with due recognition both of the character of the work and of the difficulties it presents to the average pupil.

There is some discussion now abroad among teachers as to certain qualities in the use of English as employed in business transactions. Textbooks have appeared, in fact, setting forth the lines of instruction to be employed in what is known (to the writers) as "business English." At once we are reminded of a lengthy manuscript which recently came to hand in an editorial way, and which dwelt at length upon the failure of the present high school program, especially the English courses, in giving the kind of training necessary for good business composition. Strange to say the paper itself was a succession of errors in the most commonplace elements of English composition.

If there is any real ground for this call for "business English" we are compelled to conclude that it is because of bad management in our English teaching rather than from any necessity for a specialized form of instruction. In other words, the trouble with our "business English" is the same that characterizes the faulty use of English in all conditions and needs of life.

It is high time that we faced this fact squarely. Let it be indelibly written, once for all, that there is no demand on the time of teachers or pupils that can wisely or safely be permitted to usurp the time needed to fix reliable habits in spelling, paragraphing, punctuating, together with directness and clearness in the statement of whatever the writer thinks or feels. Or if it is a matter of transcribing, mechanically, from shorthand pad or phonographic register, the language of another, it should become possible to attend automatically and therefore unerringly to such details of correct form in writing as will make these thoughts read as they were originally expressed, without the necessity on the part of the thinker of pausing to "read in" punctuating and paragraphing.

We have underestimated the power of example, and correspondingly overestimated the efficiency of rules, in our English teaching. The writer of the manuscript above referred to is a case in point. "These pupils are simply impossible when it comes to their use of English," said a well-trained (?) high school teacher of English to a visitor at the opening of a recitation. But before the recitation was over she had fully demonstrated her ability to keep ahead of her class in that particular manner of sinning.

Probably most of our elementary teachers come from a childhood environment where good usage in the great social art of speech receives slight attention. Many of them come to their work in the schools without having successfully corrected much of the bad usage which became fixed by early and long-continued practice. Can we ever expect from teachers such as these any great care for the formation of correct language habits by their pupils? Even those whose training in the home has been most carefully guarded are almost sure to deteriorate under the influence of such examples.

The great work of the elementary school is in the acquisition of the fundamental language arts. In doing this it is inevitable that much should be learned from the fields of history and of science, using these terms in the broader sense. The individual can have no vocabulary to spell or to write, or to interpret in reading, without a relatively broad contact with content materials such as have formed the basis for the most fundamental race experiences, whether as a result of man's contact with nature or with his fellow man.

A somewhat wide experience in public school teaching together with extensive observation, in most of which there has been a conscious effort to apply the known principles of pedagogy, compels the belief (1) that careful training in the elementary school will, in most instances, correct bad usage in English; and (2) that such a result will represent a distinct gain in knowledge and even in the use of such other school

arts as computation, especially where problems are given as a basis for its practice. Illustrations of such achievements are not lacking among the school systems of this country.

In such a condition the problem of management in high school English is much simplified; for in the great majority of schools the work accomplished falls far short of such results. There is but one law in such cases. As soon as the status of a given first year class, in regard to its use of the vernacular, has been ascertained — and this should be the teacher's first care — then the plans for the work of the class should include a provision, at the very outset, for work calculated to make up the deficiency.

The English teacher beginning work in a new position commits a grave error when she takes for granted an ideal situation in regard to the preparedness of her classes or assumes a situation similar to the one where she formerly taught. This would be true, in a lesser degree, in the case of entering classes for succeeding years in the same school. This fact renders it absolutely necessary that there should be a reasonable amount of adjustability provided for in arranging the courses in English.

Two things we must get away from in our high schools if we are to make headway in our English training: First, the idea that a certain amount of this or that class of material must be run through invariably, from year to year. The measure of accomplishment should rather be the progress made toward attainment of the chief ends in view: correct usage and some degree of elegance in expression, with a real appreciation for the standard types of literature or at least some of them. Second, we must correct the oft prevalent notion that the inculcation of noble thoughts and high ideals through the study of literary masterpieces can ever atone for a neglect to cultivate the art of speaking and writing the mother tongue in at least passably good form.

This is by no means underrating the study of literature

when rightly approached. We are dealing here with relative values as affected by different stages in the educative process. The uprooting or supplanting of bad habits imperatively demands promptness of action. Each year, each day, of practice makes these habits more fixed. One may acquire a taste for good literature even after the high school period is past. But pliability in habit formation decreases with the years. Moreover, just in proportion as one's perceptions are blurred by imperfect expression, to some such extent, also, are the powers of interpretation, and hence of appreciation, limited.

There arises here the question of coöperation which good management calls for, and with especial force in the case of the subject under consideration. The necessity for such coöperation with teachers of different subjects has already been referred to.[1] This necessity for organized effort looking toward a common end on the part of several teachers is especially marked where two or more teachers are instructing in English. The management of such a situation calls for a disposition of the teaching force such as shall insure the avoidance of any serious omissions or overlappings in the various stages of the work. Instead of individual class management there will then be a joint management working toward a common achievement. Methods of teaching will still be individual; but in the common aim will be seen the need of collaboration in the selection and arrangement of materials, and, indeed, in the choice of incentives to be used.

In the teaching of literature specific rather than general aims should mold the process. To set up as our aim the cultivation of appreciation is often too vague. We should seek rather those intermediate steps which the pupil will readily understand, yet in the mastery of which lies the way to appreciation. Of what avail is it to talk of fine phrasing when the pupil cannot interpret the author's language? Or to dwell

[1] See p. 234 of this chapter.

upon loftiness of sentiment in a stanza which lack of maturity and lack of experience render meaningless?

This then may be our formula on which to base details of management in the department of high school instruction in English: (1) Seek out the specific ends to be attained in the teaching of English composition and literature. (2) Ascertain the next step to be taken in the training of the given group of pupils which constitutes the class to be taught. (3) Select such materials and such treatment as will be most likely to appeal to the human interests of the pupils, to provide for the next step in training, and to lead toward the attainment of the ultimate ends in view.

CHAPTER XVIII

NOTES ON FOREIGN LANGUAGE TEACHING

I. Principles of management involved:
   1. Necessity of making effective use of drill exercises.
   2. The advantages of a comparative study with English, or with another foreign language.
   3. The problem of incentives. Dangers of relying too much on artificial stimuli. The social function of language a key to motive.
   4. The significance of a vocabulary is in its content. Seek to give meaning to all new words.

II. Criteria for judging class work:
   1. Does the teacher know the language?
   2. Is the drill work effective?
   3. The method of treatment as compared with the abilities of the class.
   4. The avoidance of artificial stimuli.
   5. Extent to which natural incentives are used.
   6. Evidence of interest of the pupils in the study.

Attention has already been called [1] to the fact that foreign language work is to be treated along with the discussion of the mother tongue as part of a group of materials having for their use in education a more or less common purpose. It has been said that a man is twice a man who has mastered a second language. This is putting it too strongly. We prefer to think of man as gradually approaching, through processes of assimilation from all race sources, an ideal manhood, rich

[1] See p. 224, Chapter XVII.

and full in human sympathy and comprehension. In this sense each language gained should represent a long stride toward the attainment of such an ideal.

Be this as it may, language, as the greatest of all human arts, must ever stand among the first of those attainments which are to be acquired through the training of the school. For not only is it the vehicle for the most of human thought and feeling, but it is that very thought and feeling itself put into concrete form, thus to pass as currency in all our every-day human interchange of these mental commodities.

Now just what part is a foreign language to play in conducting this exchange? Simply this, that he who already has and can use intelligently the foreign coin need not go to the exchanger. For him the coin will not be subject to the deductions of the exchanger's usury.

In the schools, then, what are to be the natural incentives to the acquisition of a foreign language? And what is to be the approach, what the materials, and what the technique of their treatment, in order to attain the ends sought through the instruction of the classroom?

In discussing these questions we may first very properly seek to determine what, in the main, differentiates the so-called classical from the modern languages, and what consequent differences may appear to be necessary in teaching them. The classical group includes the languages of social groups whose life cycles are closed. They can no longer be said to represent living and progressive human experiences of a continuous character. These languages exist in the literature which they have been the means of preserving and transmitting to other races. They have also permeated the language-life of the regions where they once flourished or whose people came under the influence, more or less direct, of those classical national types by whom these languages were perfected.

Through literature, laws, religions, science, and commerce this influence has been indelibly fixed upon the spoken and

written languages of the civilized world. In this form they are still living and progressive in a very definite sense, but they have as certainly come to express different thoughts, feelings, ideals. They are still worthy of study for what they originally signified, and they also furnish an admirable basis for the comparative study of language structure. They offer no revelation of modern thought and feeling of the great progressive nations of today further than as an interpretation of the legacy which they have caused to become absorbed into the institutions, ideals, and languages of these nations. Even these have come to be readily accepted in terms of each vernacular concerned, and in such a complete way as to render further return to originals of little value other than to the student of languages.

On the other hand, for those who master a modern tongue there is direct and intimate contact with growing, throbbing, intellectual life. Here live the arts, the constructive abilities, the politics, the religion, and the ethics of a contemporaneous national group. On this basis one may establish sympathy, new systems of principles, the technique of an art; and out of the study and use of the foreign tongue may gain also that better mastery, through comparison, of the structure of language — the technique of language art.

All these and many other similar considerations are of importance in that phase of class management which, in a well-administered school, is permitted to reflect itself beyond and back of the classroom into the construction of the curriculum, into the organization of the entire program of studies and exercises of the high school. If we take Latin as standing for the classics, how, in the light of its significance as suggested above, shall it be placed in the general scheme of work? Shall it be elective or prescribed? And shall it be begun with the first years of the high school, or earlier in the grades below, or later?

It will be a fortunate day for the schools and also for the

position of Latin among high school studies when it can everywhere be made an elective. This is assuming, as an essential feature in such a scheme, that due pains shall always be taken to present to the pupils and to parents the real values in Latin as they appear in the relation which this subject bears to the education of the youth of a modern race.

Not less auspicious are the indications that all foreign language work may yet be given an earlier start, so that the children of the intermediate school, with their stronger imitative powers and more ready adjustment to habit formation, may get through with the earlier steps in the acquisition of language before increasing self-consciousness becomes a bar to normal progress.

Natural incentives for the study of Latin are almost wholly lacking to the average school boy or girl. There is curiosity, to be sure, always ready to lead the unwary into strange and unknown fields. Then there is the spirit of emulation of one's elders in the home or among friends or acquaintances. Mingled inseparably with this is the desire to achieve what others have done in this field of human endeavor. The writer distinctly recalls, in his own experience, a desire to acquire power in the use of language because of a conscious deficiency in that respect, as the dominant incentive leading to the pursuit of a classical course. Something akin to this must also have actuated a neighbor's boy and friend, who, though destined to become a geologist and metallurgist, in the year or more just preceding his entrance to college, carried his Latin grammar daily with him to the field, and while resting the plough-horses at the end of the furrow, drilled away on his Latin inflections.

A little further on, beyond the drudgery of the "first lessons," other natural incentives appear. It is a remarkable fact, however, that these incentives, often capable of becoming peculiarly effective, are most frequently ignored or overlooked by our modern teachers of Latin. The appreciation of

Cæsar's descriptions of battles, of the diplomacy of the Gauls and Germans, of the flashes of humor, of the fine portrayal of human traits, — why are these not made more prominent in the reading of the *Gallic War?* Is it that Latin constructions must ever be kept in the foreground to such an extent that all the human interest is to be crushed out of the reading? Will not the skillful teacher rather awaken interest in and zest for the narrative as the solvent in which all the hard places in construction shall disappear?

Such a teacher was discovered one day. A class of country boys and girls (mostly boys!) were, under her leadership, quickly sensitive to the fine characterizations of those old barbaric leaders against whom Cæsar and his armies were contending. They caught readily the glint and sparkle of Celtic wit as it flashed out from the rather monotonous flow of Cæsar's prosaic camp-fire *Commentaries*. Their imaginations reconstructed the Roman camps, the battle scenes, and the details of the line of march. Not less interesting were the engineering exploits of the Romans, the methods of the seafaring Gauls, or the social conditions of the Germans *trans Rhenum*.

Appeal to these human interests skillfully made will furnish a powerful incentive to accomplishment in the study of second year Latin, and will do much toward removing the evident disfavor in which the study of Latin is now held in many schools. The secret is with the teacher. Granted the man or woman with the right intuitions and we shall find one who can lead boys to love the study of Greek — now almost obsolete, so far as our high schools are concerned. Think of a class of twenty-five or thirty boys, in a school where Greek is an elective, bringing a keen zest to their study of this fine old classic tongue, and that, too, with the use of the direct method in teaching it! Yet such results are occasionally to be seen in the high schools.

Too many of our Latin teachers depend upon purely arti-

ficial stimuli in endeavoring to hold their classes to work. Most frequently, in such cases, the class is never lifted above the barren rock of the passing-grade stimulus. True it is that there is something of Spartan heroism in those who win a mastery of the language in such a case. But we must not forget that in the more liberal and congenial life of Athens language and all arts flourished best.

The use of such artificial stimuli is not apt to lead the high-school boy away from his self-consciousness, already too pronounced for the highest success in the mastery of a foreign tongue. It is rather in the richer human side, supplemented and colored by frequent glimpses of the everyday life of the people whose language is studied, that self is to be lost sight of and full, free play given to those faculties involved in language training and study.

The idea that Latin aids us in a mastery of English is another incentive which, to the adult mind, may have something of naturalness in it. But to the average adolescent mind it offers no such natural appeal. It does not necessarily impress a boy as being especially desirable to maintain a grilling struggle with a second language while he is still unable to meet, with any degree of success, the requirements of his teacher of English composition. The case reaches its most acute stage when the English teacher is also depending largely, if not entirely, upon artificial incentives as a spur to achievement in her department. Here is an opportunity, if not for coöperation, at least for sympathetic realization of this other side of the high school language situation. It seems almost superfluous to suggest that the strategics of the situation, in such a case, shift the larger part of the burden to the teacher of Latin. It may be that the recitation on Latin constructions lags because the pupils are lacking in knowledge of English grammar; but this is no time to lay on the lash. Indeed it is quite possible, with the exercise of a little patience, to teach Latin constructions and remedy the English at the same time.

And is not such a treatment of the situation in direct accord with one of the purposes of Latin study most commonly emphasized by every zealous advocate of its importance? It is usually a misfortune rather than a fault that the English training of high-school pupils is defective. It is worse than a mere waste of time, therefore, to mar the first weeks of their efforts at Latin by useless fault-finding.

This amounts to stating over again a principle already emphasized in another connection: that it is the business of any teacher to start with any group of pupils from what they have already attained as a basis, and to proceed wisely, logically, and serenely to direct their further progress.

It is probably not an exaggeration to say that most of those who essay to teach Latin in our high schools are themselves lacking in anything like a full realization of the place this language and the lessons of its literature occupy in the every-day world about us. These would do well to visit some such teacher as Miss Frances Sabin, formerly of Oak Park, Illinois, and to stay long enough to see what she has done and is doing to familiarize her pupils, and, indeed, the whole high-school community with the *raison d'être* of Latin as a high-school study. Recently a visitor called for a brief visit at the Oak Park high school and found them having a regular Roman exhibit day. Several rooms were taken up with materials setting forth the place of Latin in our literature, philosophy, laws, medical and other sciences, home life, advertising; the place of Roman mythology in our arts, and the influence of Roman art in general on all modern art and architecture. Nor were there lacking evidences of the influence of the study of Latin upon human achievement as represented by the great leaders in the various activities of modern civilization. The display was a great revelation, and produced a profound impression upon the school, and upon the patrons of the school.

Here was incentive for you — a fine mingling of natural and artificial types, in a whole-souled effort to get away from

a mere traditional viewpoint to a rationalized setting of one of our most acute problems. It is only by means of some such treatment, with Latin on the "free" list, that this very important subject is ever likely to find a place of equilibrium upon its proper level of importance as a subject for secondary training.

Then again language, while it may truly be called the coinage of thought and feeling, yet to become readily interchangeable must have a common experience basis. We comprehend any language, even the vernacular, just in proportion as we share the user's experiences which he thus coins in his speech. Hence, in the study of any foreign tongue, the nearer we can approach to the original, concrete experiences of the people whose language we would acquire the less abstract and therefore the more direct and simple will the learning process become. Herein doubtless lies a large part of the advantage which the direct method of language teaching presents. The teacher who uses this method must have constantly in mind those experiences which he and the pupils hold in common and make these the basis for the class exercise. Otherwise a third party as interpreter (the usual "vocabulary") would be necessary, and the exercise would very soon degenerate into the regular "translation" method.

This calls up the whole question of what are to be the materials for the most successful prosecution of the classroom work in Latin. It seems to be true not only of Latin teachers in general, but of those also who make high-school programs and decide upon high-school texts, that little or nothing is considered necessary beyond such texts as the Beginner's Book, Cæsar's *Commentaries*, Cicero's *Orations* and Vergil's *Æneid*. If there is any significance in what we have just been saying, however, there are some very important accessories to be provided. In the Beginner's Lessons all words, especially nouns, which represent objects unfamiliar to American youth, should be illustrated and comparisons made,

where possible, with any similar objects of our own time and country. Likewise verbs denoting actions or conditions in life unfamiliar to this day and age should be made as real as possible. This may be accomplished either in the construction of the text or by the supplementing of the teacher. Pictures, stories, objects perhaps, together with the ability to act unfamiliar parts or picture them, as giving content to unfamiliar verbal forms, should be available and in frequent use for such illustrative purposes. The point of the whole matter is to build up a vocabulary that has a real, definite content, and to do it by the application of simple and well-known psychological laws of association, rather than to expect pupils to carry all these new and strange word-forms by sheer force of memory.

By the time the class is ready to read Cæsar's *Commentaries* they should have had a pretty thorough survey of the history of the Romans and of the geographic features of the land in which they lived and enacted their portion of the world-drama. In the history especial attention should have been given to the life and customs of the people in their homes and their industries as well as in politics and war. This should be fittingly enlarged upon by interesting "required readings" of a similar import, and adapted to the particular Latin study in hand.

Traditional usage has no doubt had much to do with determining the materials of Latin teaching in our secondary schools. Nevertheless there exists at the present time a difference of opinion among our stronger teachers of Latin as to what particular classics shall be studied. All are pretty well agreed that these should be as representative as possible. And so it was, doubtless, that the educational world long ago settled down to the accepted routine of Cæsar for narrative style, Cicero for oratorical, and Vergil or Ovid, or both, for the study of Latin verse and Roman mythology.

But just why Cicero's oratory should precede the poetry

of Ovid, or even of Vergil; or upon what ground Cæsar and Cicero should be chosen so exclusively for prose instead of Nepos or Tacitus is not so easy of explanation. Certainly the *Germania* is just as valuable historically and no more difficult, when all is said, than the *Commentaries*. The style of Nepos, moreover, is simple and direct, while it introduces the reader to an entirely different type of Roman literature. Perhaps, after all, the limiting of high-school Latin to the authors now commonly read is due to the difficulty of providing additional texts and vocabularies more than to anything else. Our English cousins and our European neighbors seem to have exercised a somewhat wider range of choice in this respect.

Taking the present custom of our schools for granted, there still remain certain details of treatment for consideration. First a word should be said in regard to the practice, where classes are very small, of taking the Cicero and Vergil alternately, thus throwing the third and fourth year classes together. Such a procedure is usually justified as a matter of economy, and in that sense we may consider it commendable. But when we take into consideration the year's difference in maturity and training between the groups thus consolidated, it may be seen at once that, unless the handling is very skillful and much in the nature of individual work, both groups are likely to lose something by the arrangement. An alternative to such treatment of a problem very common in our smaller high schools, and not absent from our larger ones when election is free with regard to Latin, would be to divide the period or the periods for work between the two classes, assigning longer lessons in the latter case, and thus permit each class to pursue its regular course. All things considered the plan of alternation probably has the advantage, and especially where there are strong, capable teachers.

In the reading of Cicero care should be taken to acquaint the pupils, as early as possible, with the writer's characteristic

idioms as a part of his oratory. Familiarity with the various historical events dealt with should be acquired by pupils from other sources, thus simplifying the problem of vocabulary. It need hardly be added that care should also be taken to assign the different orations for study as nearly as possible in the order of their relative difficulty rather than in the order arranged by any particular editor whose text may have been adopted for use.

In the study of Vergil a little thought will reveal the fact that each book brings out rather strongly certain characteristics of the life and customs of the time represented in the story. By making these leading points in the study, a fine basis for sustained interest may be added. There will also be ample opportunity for the use of such illustrative material as may be presented to best advantage with a lantern if this instrument is available. In the reading of both Ovid and Vergil time should be taken at the proper points in the reading to see that the pupils become thoroughly familiar with the main facts about Roman mythology. The metric character of both these selections should early become familiar, and comparisons made with similar measures from English verse; and, as far as possible, its relation to the reading of the Latin text, as well as the adaptability of the author's measures to his theme, should receive careful consideration by the class.

In these as in the second year's work the aim should be to get the pupils to the point of following the thought as the original is read; of trying to realize Cicero as actually speaking to them in the Forum, or Vergil chanting his measured lines before a select group of Roman *literati*. In other words, the direct method should be approached and used as far as possible. The visitor has often observed teachers who could do this; who could get from a class a reading, after the difficult points in translation had been taken care of, which really did seem to enable the pupils to enter fully into the thought and feeling of every line that was read.

We come now to a consideration of modern language teaching. Here the visitor is compelled to confess to a sense of vagueness on the part of many teachers as to just what are the fundamental aims to be sought in this department of high-school work. As in the case of the classical group, we may again assume the dominant language, German, as the type to be considered in this discussion. To enter upon the work of instruction in any language without a very definite purpose as determined by the possibilities and outlook of high-school pupils is to invite defeat in the very outset. Yet it is an all too common experience to find teachers who, after taking a class through a year of some beginner's book, plunge the pupils directly into the reading of German classics such as *Wilhelm Tell* or *Hermann und Dorothea*. Frequently this is to be accounted for by the fact that teachers are desirous of continuing the work as nearly as possible on the level of their later studies in college. In other cases the cause seems to be a vague notion, probably coming from the prevalent treatment of English and Latin literature, to the effect that the first and most important thing is to open to the minds of the pupils the beauties of German masterpieces.

Somewhere in the preparation of our modern language teachers this matter of the real aims and purposes of the teaching of these languages in the elementary stages represented in the high school should be more clearly set forth. Evidently the study of a great literature by one who makes German a major subject in a university is quite a different thing from that more fundamental process of acquiring a ready reading and speaking ability through the early mastery of German idioms and a large vocabulary called into use in much relatively easy reading, conversation, and written composition. Even in the matter of training those who are to teach the language in ability to make use of the direct method, most of the German instructors of our schools and colleges are at fault. They, like the high-school teachers, desire to

hurry over the most fundamental preliminary stages in order to introduce the student to the beauties of the masters.

We are not to be understood as underestimating the value of the study of literature. We are merely insisting upon a logical approach to such study. Further, we are speaking in the interests of those pupils who are to get out of the study, if anything at all, the ability to read, speak, and think in the everyday, modern vocabulary of the German language, in order that they may read the current German literature that relates to their interests in life, and have some common ground for sympathy with modern German thought and action. This means the majority of all those high-school pupils who will ever study German. Not less valuable will such a treatment be to those relatively few who will go forward into the special study of German literature. The finer mastery of vocabulary and idioms which such a treatment will give is the best possible preparation for entering upon a further literary pursuit of the language, and will greatly facilitate and enrich this further study.

Some college professors of German seem to be at war with themselves in this matter. They will make long arguments in favor of the direct method of teaching elementary German; but when it comes to the practice of the classroom they frequently hurry over this more or less dull and uninteresting period of the work to the study of the classics. In this they are not unlike those high-school teachers mentioned above who do the same thing and for exactly similar reasons. The same pedagogical preparation is lacking here as in the former case. Thus it is again that a traditional situation slows down the progressive movement which still makes of our educational system a follow-up process rather than assigning it a place at least near to that leadership represented in the field of research. And even in this, education must come to take a leading part if it is to fulfill the mission which led to the establishment of our modern high schools.

The visitor finds himself strongly in sympathy with the view-point of the authors of such books as *Gruss aus Deutschland* and *Im Vaterland*. Surely these writers have done a great work toward liberalizing the modern language teaching of our high schools. Nevertheless it is true that there are those who characterize such books as hurtful and calculated to lower the standards of German teaching in our schools; and in some cases, at least, the critics in question are not authors or editors of competing books.

Imagine how refreshing it was when, a few years ago, in a certain accredited high school a bright young woman just from the German schools, a native whose tongue still tripped delightfully on our English idioms while it colored all her speech with the accent of *Vaterland*, undertook to enliven the conversational work of her class by having, at least once a week, a social tea or other social function, for her class, where only German cookery and German speech were permitted! One can only smile grimly at the horror with which such a procedure would be witnessed by a teacher of the grammar-and-classics method of instruction so common in many sections even yet.

Why should not our German students come more into contact with current German literature? Rarely, indeed, do we see on the reading tables of our high schools a German newspaper or magazine. Could any harm come from requiring occasional oral reports on the content of articles in such a paper or other periodical made familiar to the pupil by his own perusal of the originals? Is there any more desirable attainment to be sought by such study of a foreign tongue than that the mental attitudes of a people on present-day problems should come to be understood and appreciated? Surely it is time to have done with the idea of knowing "art for art's sake." Rather let us say that art, all arts, including the language arts, both native and foreign, are for the sake of a better, broader humanity.

CHAPTER XIX

NOTES ON INSTRUCTION IN MATHEMATICS

I. Principles of management involved:
   1. The place and amount of mathematical instruction in the high school.
   2. Importance of acquiring a good supply of accessories to aid in giving concreteness to the presentation.
   3. The problem of incentives. The difficulty of making use of natural incentives and the dangers of abuse of artificial ones.
   4. Making good use of the opportunity for clear reasoning.
   5. Training the imagination in geometry.
   6. Teaching the language of mathematics correctly.

II. Criteria for judging class work:
   1. Evidence of general and sustained interest.
   2. A minimum of possible failures.
   3. The use made of incentives and accessories.
   4. Clear and orderly written demonstrations as indicative of clearness of thought.

Thus far we have devoted our attention to languages, including both English and foreign. We have found that the same general principles apply whether we are teaching the vernacular or a foreign tongue. As is true of all teaching, so in language work, and with peculiar emphasis, the interest and enthusiasm of the teacher must count for much. "Our language teacher does fine work in German, but does not get along so well with the Latin," said the principal of a small school the other day. "Does she like language work?" was the question. "She just enjoys teaching German, but Latin

she does not like very well," was the reply. So there it is. Simply to know a subject fairly well is not a guaranty that one can succeed in teaching it. There must be the joy of the craftsman in the teacher's work. Especially is this true with subjects requiring as much formal work and repetition as do the languages.

Closely akin to the languages in the relationship to thought is the subject of mathematics. Most teachers do not seem to comprehend this as fully as they should. A very large part of the teaching of mathematics in high school is on practically the same basis as language teaching. In other words, elementary mathematics is expressional chiefly. We are accustomed to think of it as representing peculiar thought processes. As a matter of fact the thought processes of mathematics are not peculiar. Whether the reasoning process be inductive or deductive, it is capable of being used in connection with almost any human interest.

The real and essential difference between mathematics and other fields of learning is in the field of thought that it represents. In this it stands by itself, has a language all its own. It deals with quantity, purely, including all space relations even to infinity. In expressing these various relations of quantity the human race has evolved a peculiar language, a set of symbols used rather exclusively. To teach mathematics is to transmit and to cultivate in the individual the ability to use this language, to think in terms of it, to express accurately all relations involving quantity or measurement. The physical universe therefore becomes a unique field for thought and contemplation with the symbolism of mathematics as a vocabulary, or a vehicle of thought.

As the imagination, the constructive power of mind, enables the literary artist to express beauty and sublimity illimitable, through his use of language; so the constructive power wielded by the mathematician, through his symbols and formulæ, is capable of reaching out beyond the tangible, the finite,

into the infinite and unknown regions of space. He weighs the planets, measures distances to stars unseen by the unaided human eye, even weighs bodies in the far-off spaces by estimating the force they are found to exert upon bodies known and seen. He writes it all like a poem in a strange metre and a tongue unknown to those who know not these higher powers of mathematics.

We see, then, that this is a wonderful realm of expression of the conceptions of the human mind. By its peculiar symbolism of the known for the unknown, the seen for the unseen, great secrets of nature are unlocked, great forces overcome, great laws interpreted in the language of common men. But to speak this speech, to think in terms of its vocabulary, requires just that mastery of every detail by which the content of symbols and their related uses with other symbols in expressing thought may be infallibly known and understood. And this is the substance of mastery in the case of any language.

In the high school we call mathematics by distinct names, as arithmetic, algebra, geometry, trigonometry. It would be greatly to our advantage if we could get into the habit of thinking of these as representing various aspects of the one general subject. It is much the same with our study of English in the elementary stages. Too often we think of reading, spelling, writing, and composition as distinct subjects to be studied and taught in an entirely unrelated manner. As a matter of fact they, each and all, belong to the one indivisible process. Whether we read or write we also spell; we write in order to compose, and we compose in order to read or be read.

Likewise in mathematics we first deal with simple, concrete, known quantities in order to learn these first and fundamental symbols and how they are related in the expression of the simpler thought processes (fundamental operations) of the realm of quantity. This stage we call arithmetic. Next we pass from the known and concrete to the unknown, or

general, or abstract. The thought processes are the same to start with; but a new vocabulary, or partly new, must be mastered in the symbolism of what we call algebra. In the simple Arabic tongue the word algebra means a binding together. And so it is that instead of a measure for some one known thing we have in its symbolism the potential measure for any and all quantities, known and unknown, — all bound together in the one simple thought process or fundamental operation.

Then there is geometry, earth-measurement it meant at first; but its application goes much farther now. By this phase of mathematics we undertake to discuss, in the new language, quantity as applied to space relations in general. The language is not, or should not be, different from that in the more elementary stages. But now our thought processes become more complex. We introduce the principles of logic and the syllogism. We reason to definite conclusions. From what is known or granted as axiomatic we reach new grounds of truth. We increase immensely our powers of measurement and of comprehension of the elements in all known space relations. But we proceed in our measuring by the use of the same fundamental thought processes (operations); and we employ the same vocabulary in expressing both relations and conclusions. We also add to our vocabulary the symbols by which space relations are ever after to be known and expressed.

Then comes trigonometry — a complete special study of relations represented by three points not in the same straight line, when these points are considered as the diverging points of lines or forces. Still other new words and symbols are added to our working vocabulary; but the thought processes are carried through chiefly on what we have learned of mathematical language in the other three aspects of the study. The difference is that we have now concentrated our thinking upon a special type of relationships. Our study is more intensive

and the language or symbolism correspondingly complex. As we are to use our conclusions in practically the whole realm of physical science, they must be expressed chiefly in the general or algebraic form. Thus it appears that we first learn to read the language of mathematics, whatever may be the stage or level at which we approach it. Then we learn to write, to compose, to express our own (mathematical) thoughts in this wonderful new language. After that we become constructive; we apply it to the learning of new truths, to the overcoming of distances, to the mastery of forces, to our business of "subduing the earth." By means of it we build houses, drive tunnels, construct bridges, harness the lightning, proportion the ultimate components of matter to the forming of new substances, measure heart throbs as a test for man's "expectancy" of life.

And yet — ! Why do so many fail to become interested in this wonderful instrument of the mind? Have they known, has any one opened to them glimpses of the fields beyond? Do those who essay to teach it know? We say that to teach a language well one should not only know the language but love the teaching of it. We found that some teachers are prone to hurry over the more elementary but exceedingly fundamental stages of language teaching in order to get to the reading of the literature they love. Do teachers of mathematics also sometimes spurn these earlier stages, or slight them in their haste to get "to doing things" in algebra or geometry? And must mathematics always mean the same to each and every one who studies it?

In a Tuskegee class in plane geometry a boy from the wagon and carriage shop was asked to show how to apply the principles he was studying to the making of the "fifth wheel" to a carriage. He did this with enthusiasm, forcefully, as one who knew his work. After all it is the eternal question of motive for the pupil and of vision for the teacher.

It now is proposed to discuss more definitely the manage-

ment of these subjects in class, not as distinct and unrelated, but as representing this general field of expression which we have here briefly characterized.

As previously suggested, arithmetic is the "beginner's book" in mathematics. Here are acquired the first easy lessons in reading, writing and elementary composition by means of this new "quantity language." The simple thought processes represented in the "operations" with integers and fractions should here become habitual. Their application in connection with all ordinary interests involving number or quantity should have become a fixed feature in the mental furnishing of each individual who has passed through this elementary stage of mathematical reactions.

Let it not be supposed, however, that all pupils who have taken the arithmetic work of the ordinary elementary school will be infallibly perfect in the use and application of its principles and processes. There will still be need, throughout the high school courses in mathematics, of frequent recurrence to, if not some formal drill upon, some of the most fundamental things already studied and oft repeated. It is to be feared that many of our teachers of mathematics are at fault here. The problem is one of psychology, chiefly, although the method of presentation follows closely as a sequence to the laws of mental growth here involved.

This brings us to the consideration of the relative place of mathematics, quantitatively, in the high school program, and also of the question of how much, if any, mathematics should be prescribed for all who are to be permitted to graduate. It must be conceded that if there is a ground for difference here it is solely a psychological one. On this point there are the usual varying opinions, but, as yet, no exact data as a basis for any conclusive recommendation. Until quite recently there has been a very general uniformity of practice based on acquiescence in the rather strict following of a traditional curriculum.

Before the widening of the secondary program by the introduction of more numerous courses in science and history, to say nothing of various vocational lines, mathematics held a high place. It was considered as not second even to Latin as a means of disciplining the mind. In recent days, however, there is a marked inclination to question the correctness of such an assumption, and to ask whether or not, for all courses not leading more or less directly to the application of mathematics, at least part of the work heretofore prescribed may not be omitted in order to leave more time for other and more direct lines of preparation for sequences of an entirely different character. There are some who take the more extreme view and insist on its complete omission in many cases without danger of any serious loss to the individual.

In order to establish anything like a reliable basis for action in this situation it will be necessary for us to discover, if possible, whether or not there are certain essential values to be realized as a result of training in mathematics which may not as readily be realized through the pursuit of other subjects, or which may be attained with greater economy, clearness, or certainty from mathematics than from any other source. If one attempts to answer such a query it will be seen that he will necessarily be compelled to base a conclusion favorable to the retention of some mathematics for all upon the relative results attained by pupils presenting what might be designated as the minimum of mathematical ability, although otherwise normal. The contention of those who would eliminate all prescription is that in many if not all such cases of minimum mathematical ability the pupils would gain a distinct advantage by devoting their entire time to other subjects. Pedagogical opinion seems strongly to favor the latter view today.

Those who insist that there are certain essential values inherent in mathematics without which the individual will, in any situation in life, be handicapped must base such an

assumption on one of three or more possible theories. First among these is the theory that ability to interpret fully other forms of expression requires a knowledge which includes ideas of quantity, both general and specific, and also of space relations. For instance, literature is full of terms expressive of quantity ideas, while the entire character of a drawing or a painting may frequently be expressed only in terms of geometry. Were one to set out to demonstrate that actual training in algebra and geometry are, for the reasons just mentioned, necessary to such interpretation, the proof of the assertion would not appear so easy after all. For the child's arithmetic should readily have given sufficient experience by which to interpret general or particular ideas of quantity. Further, there are few children who do not gain a rather wide range of knowledge of space relations in their ordinary experiences while at play or at work. Who shall say that these are not sufficient? The little four-year-old child, for instance, who, when she saw a neighbor slip and fall prostrate on the ice, called out, "Oh, mamma! come here! There goes Mr. D——. He was perpendickiner and now he is horizonten," had pretty definite ideas of certain space relations although evidently deficient in the technicalities of the case.

A second theory is that we are largely dependent upon algebra for a sufficiently thorough appreciation of symbolism. How about the symbolism of Mother Goose Melodies, Æsop's Fables, and the picture words in many common figures of speech as a means of acquiring a ready appreciation of symbols in expression? If we undertake to point out peculiar values in mathematics in this instance shall we not again have difficulty in disentangling them from the numerous other sources from which the ordinary individual acquires his conception of the place and significance of symbols? It is true that the symbolism of mathematics differs from that of literature. It is a symbolism of the strongly and concretely constructive mind. But this type of mind will usually pre-

fer mathematics. To such a mind it presents no serious difficulties.

But the climax comes when the mathematical devotee insists that pure reasoning and the method of demonstrating truth can be had nowhere else as they are to be found and acquired by the study of algebra and geometry. Now it is not so easy for one reared on a liberal intellectual diet of "mental arithmetic" to concede all the honors in this case to algebra and geometry. Nor can the position be maintained that equally good training in the ability to reason clearly and to demonstrate truth may not be had quite independently of mathematics. History furnishes numerous striking examples of such a possibility. Thus again the burden of proof centers about this idea of comparative values about which we have many weighty opinions, but little, if any, really dependable data.

To leave the situation thus, you will say, is nothing short of mathematical agnosticism. The purpose, however, has been merely to call attention to the necessities of the situation. As it now appears, we must continue to learn by slow experience or find a method for scientifically demonstrating the real values in mathematics, aside from its application in the arts and sciences, as a subject for high school study. Meantime we shall find it necessary to agree upon some compromise between the two extremes in arranging the curricula of our schools.

The strict academic program has thus far insisted rather rigorously upon three years of mathematics, dividing this period equally between algebra and geometry. In some cases an additional half year of trigonometry is also insisted upon. Following this is the more liberal arrangement of two years, one each of algebra and geometry, prescribed, and a third year or an additional year and a half offered as optional. In some instances an elementary course in general mathematics is advised as required of all, with the regular courses given above as all optional.

Out of the present confused condition as to what ought to

prevail there seem to emerge certain truisms which should have place in arranging the mathematical requirements of the curriculum: (1) the unquestionable value of mathematics as applied in arts and sciences; (2) the uncertainty among pupils as to what they may do beyond high school; (3) the demand for economy of time to be spent in school; (4) the obligation to give the pupil who is normal in other respects, but fails in mathematics, a chance to advance in spite of this failure along lines where mathematics is not required in sequence. Certainly no one can seriously question the correctness of the assertion that these four facts must have consideration. And if not, then in case of even the minimum amount of prescribed work provision should somehow be made for the exceptional case — for the one who may inevitably fail in mathematics.

The preceding discussions have at least given emphasis to the psychological necessity of differentiating among pupils with respect to quantitative prescriptions in mathematics. In such a situation as here presented there is strong need for what C. H. Johnston calls "curriculum thinking." Our high schools are still far from having thought through from the beginning to the desired outcomes along different lines of secondary school education.

In so far as colleges or universities have insisted upon a general quantitative prescription for all classes of pupils in order to gain admission to college courses, their action has aided the retention of abnormally constructed curricula in the schools. Indeed, the history of college entrance requirements until quite recently shows unmistakable evidence of progress by guessing based upon a modicum of empirical knowledge. In other words, the attitude of the average member of a college faculty with regard to such problems is a striking illustration of the futility of lay legislation without expert direction upon problems calling for expert scientific demonstration as the only consistently modern standard of action.

We may very properly make application here of the truisms stated on p. 265. The first of these is that "mathematics has unquestionable value as applied in the arts and sciences." This is a matter which should early be understood and appreciated by the pupils of any high school. No doubt much more is possible along this line than is now being accomplished by our high school faculties. The force of the second truism applies here: "The uncertainty among pupils as to what they may do beyond high school." Is it ever to become possible to avoid this? May there be such a treatment devised as shall bring to practically all pupils a clearer vision at an earlier stage of their school progress? Or must there always be provision made for those whose ideals and plans of life arrive too late for the adjustment of a corresponding curriculum in the high school? And is the sum of our wisdom expressed in the universal prescription of mathematics as the only safe provision to be made?

The third truism, "the demand for economy of time to be spent in school" emphasizes the necessity of seeking a much earlier adjustment of training and ideals than seems now to exist. There is a strong element of sound wisdom in the old-world idea of following the occupation of previous generations without questioning. Such a scheme leads necessarily to an earlier concentration upon a definite purpose in life for which the youth must prepare. But it also fixes a groove, a caste, which predetermines the entire social outlook of the individual. Such an outcome is unthinkable to the American. "Equal opportunity for all according to individual capacity" could never be accomplished under such a scheme. If we are to solve the problem, then, it must evidently be by adjustments in our educative processes.

The central idea in the call for vocational guidance through the school is applicable here. A training to vocational intelligence which shall begin as early as the seventh grade of school progress seems to offer the most plausible solution at

present. This, along with a much more general and positive socializing of the high school, should give relief. With such a procedure thoughtfully worked out and wisely directed, it seems possible that a very large part of the present vagueness and uncertainty might be eliminated. The pupil would then come to his study of mathematics, as well as other subjects directly applicable in the accomplishment of particular callings, with a fairly clear conception of the degree of importance to be attached to them if included in his chosen curriculum.

Such a consummation would at once relieve the school from the necessity of a selection of subjects based solely on the immediate preferences of pupils. If mathematics then appeared in a given curriculum as a factor without which successful accomplishment in one's chosen field would be doubtful or entirely impossible, a strong incentive to conquer its difficulties at any cost would be gained. As a result many who now fail and bemoan the hardships of mathematics would attain a reasonable proficiency in its use and application.

To those, then, to whom mathematics should remain as a sealed book after a reasonable preliminary effort, there might be an alternative course to be included in such curricula as did not absolutely require mathematics in sequence. The selection of such alternative might even be as a last resort, as recommended by the teacher of mathematics. Such a scheme would readily provide for what is expressed in the fourth truism, viz. "the obligation to give the pupil who is normal in other respects but fails in mathematics a chance to advance in spite of this failure along lines where mathematics is not required in sequence."

Such a procedure as is here suggested would seem to favor the elementary mathematics course previously referred to. Such a course should have for its purpose, primarily, the presentation of the more fundamental mathematical concepts and their uses. It might well include something of arithmetic, algebra, and geometry, treated, however, as one subject, and

dealing wholly with concrete and practical problems and applications. In order to become feasible in our schools a special text would be necessary. The course should be such as to represent a good year of work in either the eighth or ninth grade. It should be undertaken by all and count toward graduation the same as any other subject. In no sense should it replace the regular courses in algebra or geometry to be taken later in certain curricula open to selection by the pupils. It should be the sole absolute requirement in mathematics, beyond elementary arithmetic, for all pupils.

Any one who has observed at all closely must have noted the frequency of cases among young men where an early dislike for mathematics has led later to a serious handicap in their chosen vocations. In a large majority of cases, could they have foreseen this later need, they would doubtless have conquered their dislike for the sake of the end to be attained. If, then, we are to find our way through some such process of differentiation as we have here been considering, there must be especial effort for the early attainment by our pupils of ideals and purposes as related to future vocation. Perhaps we should even go as far as to say that, in view of the wide application of mathematics and mathematical thinking, unless some such reliable basis for differentiation with an ideal as incentive can be attained in time to function in the choice of a high school curriculum, then we are bound to retain the present system of prescription. For how are we to answer to society for the lack in efficiency which must otherwise result?

After all, the problem is largely one of management and method in teaching. We have already pointed out the need of much more careful attention to the mastery of mathematical forms of expression in the early steps of mathematical instruction. Probably no subject calls more emphatically for a treatment which takes account of the needs of individual pupils. Certainly no subject lends itself more readily to

such treatment. Primarily there is need of close sympathy with the individual pupil in his difficulty. Often the most brilliant mathematicians fail as teachers chiefly for lack of this quality. They work to their own ideals, frequently unmindful of the fact that to many of the class the language of mathematics is an unknown tongue.

As a rule, in such cases, artificial incentives are employed. In fact there is no certain basis for the use of such natural incentives as may be at hand. It is in such cases that one hears the teacher oft reiterating the threat of a low grade or a failure to pass. Thus would the relentless rider apply the spur to his unwilling or out-worn steed in order to attain the goal set up for himself. It would be interesting, indeed, to test teachers of mathematics in our high schools on their ability to name and state the utility of the natural incentives to the learning of algebra and geometry, and the manner of using them in instruction.

The temptation to resort to artificial incentives in the teaching of mathematics is usually strong, especially with teachers of little experience. It offers a line of least resistance, for the ability to apply natural incentives is not always readily attained. These natural incentives are few, and may be included under (*a*) uses in the activities of life; (*b*) charm of achievement which comes with the solving of problems; (*c*) the gain of mental power, of the ability to reason clearly to a definite conclusion. The last is practically excluded as far as high school treatment of mathematics goes.

Of the two remaining, the first would naturally seem to be the chief one; but in the methods of presentation and teaching generally prevalent with classes in algebra its value as an incentive is practically lost. The trouble seems to be that the teachers have not thought this relationship through. They do not readily see the applications to be made in business or in industry. Their own use of it has thus far been confined to getting through the required book courses in sequence and

passing the necessary examinations for credits or certificates to teach. The modern tendency in the making of textbooks for teaching of algebra is calculated to improve this situation materially. A much more efficient means, however, would be a proper treatment of incentives in connection with the pedagogy of the subject in a well-organized teacher's course.

The difficulty of using this incentive is not so marked in geometry, although it is to be feared that it is about as constantly absent in the classroom. The causes for this neglect are similar to those in the case of algebra, except that the later presentation in the curriculum helps a little. As a matter of fact it is difficult for even an alert teacher to use such an incentive where pupils are utterly lacking experience or contact with any of the practical affairs of life. Something of a concrete nature is practically indispensable as a means of interpretation of what the teacher may try to present.

In view of the situation as above described, it is probable that more effective use may be made of the incentive of achievement. The proper and effective use of this incentive also calls for the greatest tact and delicacy upon the part of the teacher in its application, especially with the class of pupils most likely to be in need of such stimulation or rather awakening to an appreciation of the pleasure which such mastery of difficulties may give.

It is interesting in this connection to note that the chief appeal in the use of artificial incentives is to this love of achievement. The most common incentives coming under this second class are: (*a*) Graduation from high school; (*b*) preparation for college; (*c*) the winning of some special prize or honor; (*d*) to avoid suspicion of mental weakness. Some of these may very properly be used in nursing the development of the real natural incentive which underlies them; but the artificial should be so used as readily to give way to the more natural and fundamental. The general idea expressed under (*c*) is probably the most readily available for such a process of

reinforcing; but a fine sense of its limitations and of the dangers lurking in its abuse should be thoroughly comprehended by the user.

Effective class management in teaching mathematics, as in the case of all high-school teaching, requires that care be exercised in the selection and use made of various accessories. These may be enumerated in a full general list, although their effective selection and use must be determined by the individual teacher. Those having to do with the administrative function of providing such accessories are often disturbed by the fact that a change in the teacher of a given department so frequently calls for additional equipment in some form. On the contrary, the absence of such a demand might well be cause for a little investigation.

Among the most important accessories for mathematics are these: (1) In the hands of pupils, notebooks, together with at least a few standard instruments for constructive drawing, especially in the teaching of geometry; a standard textbook for daily use. (2) Readily available for use of the teacher or the class there should be (*a*) suitable reference books giving additional problems and exercises, treating simply and briefly the history of mathematics, and indicating clearly the most important relations of mathematics to business and all the varied constructive industries of life; (*b*) concrete illustrations of geometrical forms by means of solids or charts; (*c*) such pieces of physical apparatus as involve in their use the application of mathematical principles or data. (3) Perhaps more important than either of the above is that fund of information in regard to quantity and space relations as they appear in human interests which the really successful teacher of mathematics needs to have available. All this will be indispensable as illustrative material to be used in helping those pupils who lack in visualizing power over the difficult points which are sure to come up in their pursuit of the subject.

Let each teacher, then, build about her or store in memory

such materials as she can use effectively. The only point for insistence here is with regard to those who are content to take the line of least resistance and to go on treating the mathematical courses in the most formally abstract way regardless of individual needs of pupils. Such as these should know that they are failing to do all that they are commissioned to do. On the other hand, let it never be imagined by those in authority that a teacher who cannot successfully use the equipment bequeathed by another is necessarily a failure on that account. She, too, should be permitted to select and arrange such accessories as readily fit into her methods of approach and treatment of the various problems which the teaching of mathematics presents.

It is just this personal element in equipment which is difficult to adjust. Herein is one important source of waste and loss which comes to high schools by reason of too frequent changes in the teachers of various departments. The more particularly special the accessories required the more keenly is this loss likely to be felt.

In no subject is the matter of presentation a stronger factor in the success of the teacher than in the case of mathematics. Yet, by a strange perverseness of things, as it appears, there seems to be no point where the vital importance of this factor is so commonly overlooked. Probably this condition is due in some degree to the fact that algebra and geometry are so frequently "farmed out" among the teaching corps, or undertaken by the one in the group whose preparation for high school teaching is very "general" and quite inadequate. These subjects are so limited and specific that any one who is able to "work through" the problems (with the aid of a key), although conscious of his unpreparedness, feels reasonably safe from detection by the pupils.

The effective presentation of algebra involves, fundamentally, the following points: (1) A clear conception of the aims and purposes of its teaching in high school and of its

relationship to the everyday interests of life; (2) a fairly definite understanding of the capabilities of pupils of the grade to which the first course is assigned. This would involve, also, an understanding of the character and extent of previous accomplishment in mathematical training by the particular group of pupils composing the class in hand.

There has been observed a tendency on the part of many teachers of algebra to overestimate the amount of training to be taken for granted as a result of the long training in arithmetic characteristic of the elementary schools. In such cases it is too often the fashion to begin by denouncing before the pupils the shortcomings of the previous teaching. It were far better pedagogically, from any point of view, to go earnestly and sympathetically about the task of discovering the present mathematical state of mind of the pupils, so as to insure continuity and wholeness in the evolution which it is proposed to continue by means of these variations in mathematical terms and processes represented in the high school curriculum.

Then there is the possibility of a too high ideal of accomplishment on the part of the teacher. Your mathematical enthusiast is susceptible to this weakness. To him the thing is so easy and simple. He lives constantly in an atmosphere of mathematics, forgetting that he represents an exceptional, rather than the general, type of mind. Here is a case: A teacher of mathematics, one of these exceptional types, once said to his principal that he was going to be compelled to "fail" over half of a beginning class of about thirty pupils at the end of the mid-year then near at hand. The principal told him plainly that if such was the case he would be compelled to investigate carefully the kind of teaching that particular class had been getting. At first the teacher, who was very proud of his mathematical ability, was inclined to be angry; but at the earnest request of the principal, who was his closest friend, he promised to think it over. The next day he came back with the assurance that, after more careful

consideration, he found that all but about four would be able to make passing grade after the help he could give them on review.

A safe plan to follow in the presentation of any new step in algebra is to review the corresponding process in arithmetic. That teacher's method of presentation was good who, while a visitor was present, began the assignment of the following lesson by taking at least half of the class period in finding out what the class knew about complex fractions in arithmetic. Not only were the class tested on their arithmetical knowledge, but they were also shown the application of the same fundamental operations in the case of algebraic quantities. How else could the teacher be assured that her class would make an intelligent preparation of the lesson to be assigned?

It is just at this point of assignment of lessons that the risk is too frequently taken with regard to what pupils are supposed to know as a result of previous teaching. The method too commonly followed is to take time merely to state what pages in the book or what special topics are to be studied, and especially what problems are to be "worked." (Under such circumstances "worked" is a more suitable term than "solved.")

There are at least two important elements to be considered in the presentation of each new step in algebra. First of all, the principles involved are to be plainly set forth. In few cases is it safe to assume that the brief presentation of these given in any ordinary textbook will be sufficient to make the principles and their application clear to more than a majority of the class. It becomes the teacher's first duty, therefore, to see that these principles, together with the terms used in expressing them, are clearly comprehended by the members of her class.

That teacher is courting failure from the beginning who assumes that the pupils have acquired such knowledge by perusal of the brief statement of principles and definitions of terms given by the author of the text in use. Nor is the

situation materially changed by reason of a few brief questions and perfunctory or vague answers covering the topic under consideration. Yet all too frequently one sees just such a procedure, followed by assignment of problems at the board, and a consequent marking down of pupils who have failed to comprehend.

How different the treatment recently witnessed as given by the principal of one of our larger high schools, a man who is a master teacher in the field of mathematics. The subject is quadratic equations — an introductory lesson. The teacher is at the board, questioning, illustrating, criticising, as he puts incisive questions to his pupils. The class is large; but through the entire period of forty-five minutes there is no wavering or flagging in attention and interest. Clearly, step by step, are brought out the meanings of "quadratic," "pure quadratic," "affected quadratic." No point of variation, and hence possible cause of stumbling, is overlooked. Each accessory operation previously gone over is made sure of. It is an admirable presentation, an hour well spent. It should not be difficult to locate any who are really not mathematically competent in such a class; nor is it likely that the list would be long even for a whole decade of such teaching.

The second important point in presentation is in the application of principles through the solving of problems. Here all that has just preceded has weight. Here, likewise, the real aim is frequently lost sight of; and what should be a delightful experience in successful achievement often degenerates into an aimless and wasteful juggling with figures and symbols in an effort to work out a known result. How delightfully refreshing, by contrast, is the following incident: The teacher is dealing with problems under simple equations. The problems are written out. The pupil *must* be able to read them before he can hope to solve them. The recitation begins. One after the other the problems are read aloud by pupils who then proceed to rationalize them, i.e. to state in clear

English just what processes are to be performed in order to meet the conditions stated in each problem. This done, the pupils are each assigned a problem to state in algebraic form, and to solve. All who can, work at the board. When the solutions are complete the rationalizing process is again gone through, with the definite results obtained, step by step. Here was at least one striking case where the second great point in presentation was satisfactorily exemplified.

After a good year of elementary algebra, which should be extensive rather than intensive, at the same time offering a fine review of the fundamentals of arithmetic, the subject should give place for a year, at least, to the teaching of geometry. This is desirable for two reasons: First, the pupils should thus be permitted to come back to algebra at a more mature stage, and with the training in reasoning which a course in geometry is so well calculated to give. There will also be the advantage, if the teacher will use it, of pointing out relationships between these two branches of high school mathematics. This second reason for such an order of treatment would disappear if we could have the still more profitable plan of unfolding *mathematics* as a unified field of experiences rather than as separate and almost wholly unrelated groups of principles and laws.

In any case the time factor is a vitally important one. There is good ground for the belief that the ideal time scheme should include at least three and a half out of the four years of regular school work. This is not saying that the pupils' full time, five days per week, should be devoted to mathematics as one-fourth of his work for so many years. It is believed that better results than seem at present attainable might be had through such an extension of the study of mathematics, even if only half the time of one full subject for a year were given to its treatment in class. This would still leave time for a half-year of plane trigonometry for those desiring it.

By such a plan the pupil would be able to bring to the study of his mathematics all his unfolding mental abilities from year to year. In this way might readily be gained a mastery of this subject in its elementary stages such as to make its use a real advantage as applied to the actual problems of service. At the same time he would have received the full value of its disciplinary qualities, thus adding to the strength and clearness of his reasoning powers.

All this is assuming, of course, that in the arrangement of any given curriculum the pupil is enabled to differentiate according to his discovered abilities, even to the extent, in some cases, of the complete elimination of high school mathematics from his particular curriculum.

In the study of geometry, as in the case of algebra, too great care cannot be taken in seeing that the language of the subject, the terminology, is mastered, step by step. Mere memoriter work in reciting definitions of lines, angles, surfaces, and their various relations is all in vain unless the pupil gains a clear concept of the content of each term. To accomplish this there needs to be available in the mind of the teacher, or at hand in concrete form, a variety of illustrations of each particular geometrical expression under discussion, in order that opportunity may be given for comprehension through all the varying apperceptive processes which the different minds of a group of pupils represent. Otherwise, some will leave this stage in the process of instruction still groping in darkness, utterly unable to translate the new language into terms of their own experiences. Pupils have been known, for instance, who have passed over all the work of the ordinary text in plane geometry without having gained a correct conception of a circle or an angle. How, in such cases, can there be any reasoning? To these pupils the sole alternative is the memorizing of each and every demonstration — only another way of saying that they have failed.

Imagination plays an important part in the study of geom-

etry, yet in any high school class there is likely to be a goodly proportion of pupils who are weak in this particular faculty. It is not an uncommon thing for teachers to overlook or ignore this fact. A student relates this experience: He could not readily see the relations in a figure which varied in position and lettering from that given in the text. His instructor deliberately varied the figures in order to test the visualizing power of his pupils. One day the instructor called on this student to demonstrate a simple proposition, the figure for which had been drawn, in inverted order, upon the blackboard. The student declared that the figure was wrong. "Perhaps if you stand on your head," said the instructor, "you will be able to read the figure correctly." In this case the sarcasm had the desired effect; but with many pupils it would have crushed out the last shred of desire to understand. If there had been, instead, sufficient concrete illustration to enable all to see, from different standpoints, the same general relations, the results would doubtless have been more generally effective.

The fact should not be overlooked, however, that this ability to see given relations in a figure independently of any particular arrangement which may have been adopted by the author of the text is a vitally important matter when we come to the summing of results from the teaching of geometry. A wise use of concrete illustrations should lead those who are lacking in imaginative power to clear visualizing. But it should not stop here. The aim should be so to develop the work, through conscious effort on the part of both teacher and pupil, as to lead to the strengthening of imagination on the part of those who are lacking in this particular. All this implies that there are certain personal characteristics in the membership of any class which necessitate at least a little individual attention if the best results are to be obtained.

Some teachers of geometry find it helpful to require the pupils to keep notebooks in which they are expected to make

carefully constructed geometrical figures and to write out neatly and in good form the statement and demonstration of each proposition. Such a plan properly used should result in improvement of drawing and greater definiteness in reasoning; but there is danger of overdoing this formal side of the work at the expense of the advantage there is in the widest possible range of application of the principles involved.

A reasonable amount of inventional work should be required. One of the most interesting experiences of the writer in teaching geometry was a term's work based wholly on the inventional plan. Only definitions and axioms were given, and from these the class proceeded to formulate propositions and to work out their demonstrations. Such exercise is probably too strenuous for the average class; but a reasonable amount of it mingled with the given theorems of the ordinary text is good training for any class. Peculiar zest is added to such exercises when a practical application appears as a basis for the problem involved.

There is a notable change now taking place in the character of our geometry texts. In this connection attention may well be called to the advantages of having at hand a carefully prepared syllabus of the subject. If a syllabus is available that brings geometrical presentation down to date it is a great boon to the teacher who, by reason of some local limitation, finds it necessary to continue the use of some older edition of text. Such an outline may be used with any text, with a certain amount of supplementing, and, if prepared by a representative committee of mathematics teachers, is much more apt to reflect the consensus of view among students of mathematics than any individual text. At the same time it is exceedingly desirable that the teacher of mathematics keep well posted on all new ideas of presentation which the newer texts are intended to convey.

CHAPTER XX

SOME GENERAL CONSIDERATIONS AS TO EXPRESSION

I. Principles of management involved:
   1. Training to skill in the use of tools and instruments, and in various types of technique.
   2. Motivation through emulation of art achievement and through the relation of the art to vocation.
   3. A clear understanding required of the intimate relations existing among manual arts.

II. Criteria for judging class work:
   1. Note the teacher's appreciation of unrelenting thoroughness in technique of the art attempted.
   2. The extent to which the final purpose of the art is consummated.
   3. The selection and effective presentation of ideals and motives.
   4. Good judgment in selecting materials and instruments.

The field of expression in the education of children and youth is a complicated one. Besides the language and mathematics which we have discussed it includes music; drawing and color work, with design; weaving and knitting; molding from clay or plaster; shaping or carving with tools, from wood, stone, metals, paper, or textiles. All of these forms of expression include, in common, three stages or aspects: (1) The art stage, which involves the mastery of the technique of any one or more of these forms or modes of expression. (2) The historical aspect, as seen in (*a*) the story of their development, or in (*b*) their product of finished art — masterpieces. (3) The science stage, or the attempt to express the

essence of each, as a process, in a body of principles, thus constituting the science of each form of expression.

Such an analysis is necessarily formal and arbitrary. As a matter of fact, all three of these aspects have developed along with the evolution of the arts, which are themselves but the objective delineation of the subjective in human life in so far as this may be expressed. Failure to recognize this "three-in-one" nature of the various arts of expression has, however, led to some serious misconceptions on the part of those who teach them or write books about them. Through long eras of development each art has acquired a form of technique which is generally approved for its effectiveness. Although this may be acquired with more ease by some than by others, yet all who would use these arts of expression must master the conventional elements in the formal process. Put in other phrase, the centers of consciousness must willingly direct the muscles and reflexes concerned until these, by repetition, become automatic and habitual. The beginning is imitative response, followed by thought direction through memory recall, until ganglion, nerve, and muscle coöperate at the merest "button-touch" by need or desire.

Now there is no way of evading this logical process of mastering an art. We cannot acquire an art by learning many things about it or about its product. The technique, and that, too, at its best, must be made a part of oneself, built into muscle and nerve-fiber and ganglion. We may use the product of the art as an incentive; the principles of an art may be so studied as to give one a certain constructive ability, an originality of technique such as may give an individuality, a distinguishing character, to one's art. But there is no such thing as escaping the formal "drill" for the mastery of the simple conventions in technique. This applies with especial force to language, to music, to drawing and color work, and to all other kindred forms of art expression.

Mathematics is more in a class by itself. This is because

it has no distinct and independent footing as to product. In the first place, as we have found, it is a direct offshoot of the language arts. Then its use is involved in all the other arts. On the other hand, it develops strongly in the fields of science and philosophy. In fact it is so commonly thought of as a science that many would repudiate the idea that it is fundamentally by nature an art, a peculiar form of expression. It is just this failure to recognize the art stage of mathematics, and the striking absence of any art product of its own independently of other arts, that renders the teaching and mastery of mathematics relatively difficult. If there were a distinct art product this would stimulate effort as an incentive. As it is, the magic of its power in a constructive way has led to its development along abstractly scientific lines in the field of philosophy; and these aspects have largely dominated the school treatment of mathematics since the days of the Greeks.

It is particularly for this reason that it is desirable, first of all, to call attention to the necessity of mastering technique in mathematics and also of giving it a practical turn by indicating its applications. How else is there to be any incentive, any desire? and how else can it ever be of any use to the learner? With language the case is different. Even the slightest knowledge of it may be very useful. It is the daily stock-in-trade of expression in nearly all of the most fundamental of human relations. Its literature is a most powerful incentive to the mastery of its technique. For even the little child will discover the art of reading when once he realizes that the enchanting stories his mother recites to him are somehow stored away in the pages of his nursery books.

In the case of music, also, the art and its product are quite as closely related. The difference here is that the range for expression in music is more limited. Its appeal is chiefly to the emotions. Its symbolism is also more complicated since it means the transfer of visualized symbols into a set of sounds entirely unique and apart from those of ordinary

human speech. Furthermore, it really rests on a scheme of applied mathematics which does not simplify the problem presented to the one who would master this art.

Since the uses of music are not so common and imperative as are the uses of language, not nearly so much pains is taken to cultivate this art, neither can it ever be expected to become as common and prominent as language and its literature. Nevertheless it is an important art, one that fills a large place in human life. To neglect its teaching, therefore, is to place a restriction on a people's powers of expression and by so doing to suppress and stifle some of the finest and rarest of human emotions. Even those who cannot readily acquire this art as a means of expression may be taught to understand and appreciate what it expresses when made use of by others.

The teaching of music in all its leading points is so nearly like the teaching of language that the management of the work need not here be dwelt upon.

The most primitive arts of all seem to have been the remaining group named above which we may call the manual arts. As typical of these we may consider drawing and color work, together with design as an element more or less common to all. In its primitive development this form of art seems to have been purely utilitarian; but in its evolution it has developed a much wider significance. We may say of all the arts of expression, indeed, that they probably began with a utilitarian application; but practically all of them have developed both an esthetical and ethical significance. Again mathematics will come nearest to being an exception unless we consider it in some of its applied forms as used in connection with other expressional arts.

Language, music, drawing and color work, plastic art, carving, etc., are striking illustrations of development through all three of these forms of application. Modern life has opened up entirely new and unexpected fields for the combination of the utilitarian and esthetic aspects of drawing and color work,

especially in connection with designing and illustrating. These results follow naturally from the fact that all invention of forms of expression has a common aim — that of the transfer of human thought and feeling as a result of man's reaction to his environment, both natural and man-made, in all the varied experiences of life. It must necessarily follow that utility, beauty, and truth should be more or less blended and interwoven in the results.

Primarily, then, we may say that the purpose in teaching drawing and color work in high school is for its use as a means of expressing ideas, thoughts, and feelings. It is not expected that many fine painters or designers will thus be developed, but that all will gain a useful art in some degree, at least; and that those who are called to be artists will discover themselves in their efforts to master the simple technique of this form of expression.

As in our English composition, so here we must stress the mastery of good technique as far as we go. But we must remember that where one is called to be a master of this art some thousands must, of necessity, be content with a merely imitative stage of expression as rendered in form and color. For this larger group the ordinary utilitarian aspects of drawing must suffice as incentive. But both groups should study the works of the masters — the one to learn to appreciate, to understand something of values in art; the other both to appreciate and to emulate the finest products of that art.

The eye is to be trained to observe, to evaluate light and shade, straight line and curved, as related to what is expressed; to measure distances, and to sense the imaginary lines and the vanishing points of perspective. The hand is to be trained to skill in the use of pencil, pen, crayon, or brush. Color-blending and color-values are to be mastered and applied. But just where is the work of the high school to begin? For many of our schools, outside of the well-organized city systems, there is no preliminary training in the elementary schools.

This places a serious handicap on the work of the high schools. Much of the simpler technique above referred to might readily and better be accomplished below the high school. But since, in many instances, the high school must begin the work on the very lowest level of rudimentary effort, it follows that the work to be undertaken must presuppose a certain amount of elementary training before any work of high school grade can be done. The mental reaction is necessarily different at this stage. The appeal of the lesson must be to this different attitude, this enlargement of vision and understanding of ideals and motives which the high school age of the pupil represents.

Under the department of drawing, or as separate departments, there will be two distinct lines of work, yet both coming under the more general principles of technique. These are (1) the art and design work — including both form and color effects in drawing — and (2) the mechanical drawing, or draughting, which is chiefly line work and with the aid of instruments. The art drawing will be practically free-hand, with such media as the pencil, pen, crayon, and brush. In design there may enter some of the principles and usages of mechanical drawing, although usually here, also, the work will be free-hand. The work in design should be always with reference to some piece of construction in wood, or metal, or clay, or fabric, and should find its application in these departments if the work is to come to consummation.

The draughting will come in connection with wood-work, pattern making, architecture, landscape design, and engineering. And the two forms will come together again, in a larger way, in the rendering of the architect and of the landscape gardener. The mechanical process of drawing is based chiefly on mathematics and its execution calls for great skill and accuracy in the use of instruments for measurement and for the exact construction of lines and angles. This kind of work finds its consummation, through the tracing sheet and blueprint, in definite plans drawn to scale for use in construction

from wood, metal, and stone; for road building and canal digging; for mine construction; for map making, and for landscape architecture. Both these departments are exceedingly important as forms of expression to be taught in high schools. Both involve, primarily, a training to skill; to the adroit use of hand and eye in conjunction; but both call, in different ways, for a trained imagination.

It will readily be seen that there are two prominent factors in the class work connected with the teaching of manual arts: First is the training to skill in technique — a matter of drill. Second is the motivating, the presenting of ideals, chiefly through the products of art, on the one hand, or the vocation to which the work is to minister on the other. The fact that much of the work above outlined carries over into the wood and metal shops, the machine shop, as well as into ceramics and concrete work, and even brick and stone work, readily gives a basis for motive in vocations.

The work in textiles, as in clothing, millinery, and house furnishings, again offers ample opportunity for applied art and draughting. Here also are found the two motives of emulation and vocation. Evidently it becomes a very important part of the teacher's class work in these lines, aside from training to skill, to lead individual pupils at least to discern the vocational outlook. Very frequently it happens that pupils who have thought themselves incapable of even passably good achievement in any form of art expression have suddenly discovered, through a vocational ambition, that they are able to secure very creditable results in these lines.

There is still another form of expressional work through instruments, chiefly, that is essential to certain curricula of the high school. This is the stenography and type-machine work of the commercial curriculum. Here again is a matter of skill to be acquired closely akin to that of English composition, yet more mechanical. The motive is purely vocational.

The bookkeeping is of a somewhat similar character — an application of arithmetic and writing to the problem of accounts. Incidentally there are also involved here the adding machine or the tabular computations so useful at the cashier's desk. All this work represents the acquiring of skill and technique and involves a large amount of repetition in order to make the pupil competent to fill a good place vocationally.

There is a wide difference in schools in the degree of practical application provided for in connection with the training in such of the above forms of expression as relate directly to important vocations or to social interest of a more general character. It should be constantly in mind, in the teaching process, to seek out and make opportunities for such practical applications.

CHAPTER XXI

NOTES ON THE TEACHING OF HISTORY

I. Principles of Management Involved:
   1. A basis for interpretation of past events is first to be established.
   2. The ultimate aim is to be kept fully in mind.
   3. The relation of each course to this aim is important.
   4. In order to reach different mental types the motives should be as varied as possible, i.e., as related to different human interests.

II. Criteria for Judging the Technique:
   1. The selection and arrangement of materials for economy of time and effectiveness of presentation.
   2. Making wise use of auxiliaries, such as geography, fiction, illustrative materials, special references.
   3. Securing conditions favorable to the laboratory method of study.
   4. Presenting the work so as constantly to appeal to the thought processes.

There remain to be discussed chiefly those subjects which serve as stimuli to thought, content subjects, as distinguished from the expressional aspects of educational subject-matter. The chief subjects of this group are history and science. According to the classification suggested in Chapter XV we should include under history not only the subjects usually so classed under the narrower use of the term, but also all products of art, including literature, which has already been treated in an earlier chapter of Part III.[1]

[1] See Chapter XVII.

For the purposes which these notes are to serve, we may well confine ourselves to matters connected with the teaching of such courses as ancient, European, English, and American history. Evidently, at the outset, it will be seen that a somewhat different technique will be required for these subjects. Drill work will be reduced to almost a negligible quantity, while in its stead, emphasis will be placed on problem work and constructive thinking.

One of the striking facts resulting from extended observation of the teaching of history in high schools is the evident failure on the part of many teachers to grasp and keep before the pupils the big thing in the aim and purpose of teaching the sociological group of subjects. So easily do pupils and teacher get into the habit of scanning and discussing more or less isolated sections of details, that the larger sweep and significance of all this record of the past is not kept in view. Yet it is this larger ultimate aim of history teaching which should largely determine the treatment which it is to receive. To the careful observer it often seems as though there had somehow crept into this phase of teaching that conception of a history lesson which one might have if he were "cramming" for an examination for a teacher's license. He is concerned chiefly with remembering salient facts, such as names of men and places, dates, particular events and their immediate outcome, each for its own sake rather than as related to the larger subject under consideration. Is it possible that our many set examinations have led to such a sense of routine, thus totally diverting this phase of educational work from its original and fundamental purpose and trying to convert it into a drill process for the memorizing of facts?

What a difference between such a weary grind of routine and the case of that teacher who, in the study of Athenian history, sought first of all to have her pupils see the life of that ancient city as it really was. In the absence of any such vivifying means as the lantern with well-selected slides, or

motion picture films, she made use of such pictures as she could clip from magazines or buy of the picture firms, placing them about the walls of her classroom for ready use and for frequent examination by the pupils. Then there were clippings and extracts from Greek literature and from travel stories, mounted or in scrapbooks for reading and references. By every available means, including a careful study of the underlying geography, she sought to make these people live again in the minds of her pupils; to have them see this wonderful race on their streets, at the market place, on the Piræus, at their temples, in their homes, at their games, and at war on land and sea.

Thus only, as this teacher conceived it, was it possible to have the pupils catch the real significance of the remarkable legacy which ancient Greece passed on to the world of modern thought and action. They must first know the people by familiar standards of interpretation — home, community, business, recreations, the fundamentals of all civilized human life. Herein is found that basis for interest of sufficient intensity to carry the pupils over the otherwise abstract facts to be studied concerning the institutions and activities of the Athenians. With some such presentation and with the aim clearly in view of making this epoch in ancient history function in terms of modern life and institutions, the study of Greek and Roman history becomes a very interesting part of high school work.

This calls to mind the fact that it is very desirable to know the aim of each particular course in history as related to the larger general aim. Then there is also the need of keeping in mind the fact that high school boys and girls will get but little history at best. It is very important for them that the brief courses which they do take should be so taught that they will not only know how to read history for themselves but that they will also have acquired a liking for it and a certain clear estimate of its place and value in one's prepara-

tion to live in the world of men and affairs. For whether men will or not, they cannot break with the past; for every existing tendency of the race runs back, for its interpretation, into the earlier life of mankind. There is no new achievement other than doing a little differently the things that have become habitual in the doing throughout many centuries.

Undoubtedly the most significant test of the efficient teaching of any part of human history is to be found in the attitude which pupils take toward its further reading. For if they have learned to feel the dramatic nature of it they will fill in for themselves the gaps that remain after the cursory survey of the few epochs for which there has been time in the high school. This conception of the teaching of history throws an illuminating side-light on the problem of equipping the historical department of the high school library. It is easy enough to secure all kinds of extensive writings on history dealing with its philosophical aspects. But when it comes to the selection of books that deal with the real, everyday human side of a people, the task is not so easy. Yet this is the desirable thing to do; for thus only may the real, human, dramatic nature of the story of the race be brought out.

Thus it is that the organization of a working library for history teaching is a real art in itself, to which any successful teacher of the subject may well be permitted to devote a little time regularly each month or term with reasonable assurance that funds will be available for making the necessary additions. The trouble here is that the frequent shifting of teachers from school to school makes such an organization of historical material almost impossible. It is only in the relatively few schools where stability of tenure has become established that any such organic treatment of the library problem seems possible; yet some such plan of development is essential to the most successful teaching of the subject. A very good substitute for this, however, and a plan more readily feasible, would be for the history teachers of a state, or even county,

to organize and coöperate in a somewhat more generalized selection of material to be recommended for the teaching of history in the high school.

There is, in many instances, a serious neglect of the geographical side of history teaching. Here again there seems to be evidence of the effects of the same formalism already referred to. A feverish haste to impart "facts" leads to the overlooking of another of the major factors in that development which history undertakes to depict. No important racial or national development can be clearly comprehended without a knowledge of the salient geographical features which have entered into the environmental relations to such development. Along with the organization of the historical library, therefore, should go the collecting of suitable maps, charts, and atlases for bringing out clearly the geography of each lesson. Such contributory material should be readily available at all times.

Still another valuable auxiliary to the resources of the history teacher are the studies in history and the efforts at the reproduction of historic action represented in fiction. Here, to be sure, there must be great care lest pupils be misled; for some writers of the historical novel have taken great liberties with the truth in order to adapt the materials to the plots of their stories. A very little care, however, on the part of the teacher, first in the selection of the fiction to be read and next in pointing out the chief discrepancies, will prevent all serious misconception. This sort of material lends itself very readily and effectively to making the appeal, through the dramatic element, to one of the most powerful motives to study.

The laboratory method, with comparative study of nations, will be almost constantly in use in well conducted history study. This will call for much active thought on the part of the pupils. The general aim is to develop an appreciation of the variations in forms of government and other social institutions. The purpose in view is the establishment in the minds of the young of an understanding of our own govern-

ment and social order generally, and above all, an appreciation of the significance of our modern civilization.

Thus by keeping constantly before classes the similarities and differences between ours and other civilizations or other national types, we shall be furnishing them with a means of exercising critical judgment concerning the affairs of today, in the interests of which they expect to act as citizens. More than this, we shall have furnished for the study of history a most effective motive.

Reference has been made to the need of keeping in mind the purpose of each course in history as related to the larger aims of history teaching. If we turn again to the course in ancient history we shall find a good illustration of this need. From the standpoint of a high school education we cannot afford to give much time to details at such a distance from the present. Here is a teacher who insists on having all the Egyptian Dynasties mastered by her pupils. Now of what value will it be in interpreting the past in terms of the present or in inspiring a love for the study of history if we require our pupils to commit such facts as are known or guessed at concerning the regins of Rameses the Great or Amenhotep III? When we pause to think of it, what does Egypt mean to us at all outside of the interpretation it may give us of history references in the Christian Bible?

A brief reading and discussion of the ancient Eastern nations with some attention to the geography of that time should be sufficient. The stories of the Nile and of the Tigris-Euphrates valley are all that is essential; and these stories may be made very interesting and instructive. But we should not fail to carry the interest over to our study of the Greeks, or just enough of it to show how Egyptian and Persian civilization affected the Greeks. The treatment of Greek history has already been suggested.[1] That of Roman history may be similarly dealt with, except that Rome's legacy is so strikingly

[1] See pp. 289 ff.

different, and her influence on the development of modern Europe so much more direct and significant, especially in politics and government and through the transmission of the Christian religion.

By properly evaluating the materials of these earlier periods it becomes readily possible and certainly desirable to follow the later recommendations as to the division of courses, thus bringing this first course down to the latter half of the eighteenth century. In order to accomplish this satisfactorily there is need of careful organization of the material following the decline and close of Roman sway in Europe.

This mediæval period may be made full of life and interest, or dull, meaningless, and uninteresting, according to the degree of understanding with which the essential features are organized and presented. It should mean a pretty clear understanding of the new racial life of the north — the Germans, the Franks, and the Britons; of the new social order that thus came in; of the remnants of Roman influence which persisted in shaping the new nations; and of the recurrence of Greek influence through the revival of Greek learning. With some such background it would then be comparatively easy to bring out the influences that led to a new commerce and the resultant discoveries; to the rise of science and a new school of philosophy; to the new outlook on religion and the resulting reformation; to a new conception of individual rights and the spirit of democracy; to the rise and subsequent overthrow of feudalism.

Such a treatment of this period, to be successful, would require an intimate knowledge of the more elementary sources, and of all the accessories in the form of pictures, translations and literary allusions, biographies, and historical fiction. With this knowledge there would need to be tact in arranging and assigning work for the pupils and a thorough understanding of and sympathy with their interests and limitations.

The inclusion of this larger scope in the first course thus

frees the time for a much fuller and more satisfactory treatment of the last two hundred years of modern Europe with their remarkable development in government, religious life, invention, industries, literature, and art. Thus the conception of aim would be possible of realization. All the forces coming out of the past would thus have been delineated, traced downward, and accounted for in modern national and institutional life. A wider understanding and deeper sympathy with the racial types in modern civilization would have been inculcated, and the way prepared for a closer comparative scrutiny of our own national life and its problems.

If desired, especially for those whose aims in life might demand it, or for those whose interest in historical study might make it desirable, special courses might be included, among other electives, in English, German, or French history. Such courses should lead especially (1) to a better understanding of the laws, literature, education, and industries of these three great types of European national life, and (2) furnish a basis for a closer comparative study with our own government and institutional life.

With such a preparation how fruitful might be made a study of our own national evolution, (1) in our form of government and the type of democracy which it represents; (2) in our laws and literature; (3) in education; (4) in the industries and the status of the industrial classes generally.

This would mean something far different from a review of the ordinary chronological treatment of our national history after the fashion of the elementary school course, and may it not be hoped that it would include some attention to our sister American states as well?

With some such preparation the study of civics, economics, and, perhaps, commercial law, would have some real significance in a civic as well as in an industrial and commercial way. For then the pupils would have a real basis for the interpretation of these fundamental elements of our political

and social life. At the same time these studies, and, indeed, all the history courses, would furnish excellent opportunity for developing an intelligent comprehension of the various fundamental occupations as related to the progress of the human race; and surely for the young, casting about for a definite aim and purpose, in search for vocation or avocation, or both, there is no greater need than such intelligence as the wise handling of the content subjects of our high school courses of study can give.

CHAPTER XXII

NOTES ON THE TEACHING OF SCIENCE

I. Principles of Management Involved:
   1. The most economic order of treatment of the various science courses.
   2. Training in fundamental thought processes.
   3. The inculcation of correct habits in the recording of results of observation and experimentation.
   4. Development of the ability to express truths of science in terms of one's most customary form of expression.
   5. Economy in preparation for laboratory and field work by classes.

II. Criteria for Judging Technique:
   1. The appearance of the laboratory at the beginning of a laboratory period.
   2. The method of placing the laboratory problem before the pupils.
   3. The uses made of recitation, textbook, and lecture.
   4. The manner in which notes and drawings are required to be kept.
   5. The use made of the lantern where provided.
   6. The general attitude and spirit of the pupils with regard to the work.

The second large group of materials belonging to the content or stimulative side of the subject-matter of the high school is science. It comprises those principles and generalizations which have originated in man's reactions to contact

with nature as expressed in the physical world and in plant and animal life. The subjects ordinarily included in the curricula of the high schools under this title are: Physical science, including physics, chemistry, geography, and astronomy; biology, including botany, zoölogy, physiology; such related or applied sciences as agriculture, domestic science, and possibly a general science course. There is, perhaps, no other equally large or important group of materials in the high school program, the teaching of which is so open to question as to its real effectiveness as is this science group.

And why this questioning? Certainly not because the materials are unimportant. It requires no argument to convince any thoughtful person of the vital importance of much, if not all, of the materials included. The principles of physics and chemistry are fundamental to a large part of modern advancement in invention and in the industries. Geography and astronomy have given us the knowledge needed in the great commercial and social interchange and division of function characteristic of our modern life. A knowledge of the principles of botany and zoölogy is fundamental to progress in agriculture and the allied arts. Biological knowledge in general underlies much of the advancement made in a knowledge of the laws of health and the causes of disease, to say nothing of its relation to advancement made in psychological research and in sociology.

No one can reasonably question the importance and necessity of a generally disseminated knowledge of these subjects such as the high school should be able to provide. The questioning is on the degree of accomplishment measured by the outlay in time and in material equipment. There is a generally prevalent feeling that the results of science teaching thus far in our high schools have been disappointing. One outcome of this situation is seen in the development of a persistent demand for a change in the method of approach to the teaching of science. As a consequence there are now

two opposing notions as to what should be done. One group of science teachers contends strenuously for the retention of the unit courses as they have long been presented in high school curricula. The opposing group claims that this can never be satisfactorily done; that the only remedy is to be had by the substitution of one or two years of general elementary science.

Most of the adherents to the unit plan are willing to admit the need of some changes in methods of presentation, but their contention is that these changes can better be made in connection with the unit courses of special science than by the adoption of the proposed general science course or courses. It is further pointed out that the general courses proposed have developed from the teaching of special courses and take their real significance from the particular one of these special courses in which the teacher happened to be most thoroughly trained. Still further, it is held that there are no institutions, or at least but few, prepared to train teachers for the successful presentation of a general science course. Such training would involve a wider knowledge of science, physical and biological, than most teachers of the subject are capable of taking on successfully.

Those who advocate the general science course insist that the too specific treatment of the divisions of science at the beginning is the chief cause of the unsatisfactory nature of high school science work. They would first give the pupils a wider view of the field as a whole without classifying phenomena into special science groups. They would seek larger unifying principles which should make possible the presentation of fundamental concepts of the world of nature as related to the life of man. In doing this they would be dealing with principles both physical and biological without naming them as such. They would thus develop the powers of observation and inculcate habits of recording the results of observation or of simple experimentation in a systematic way. Thus

the way would be prepared for the more specific treatment of science courses to follow.

There can be no doubt as to the general line of approach most to be desired. But there arises another question as to where this preliminary training may best be given. The tendency seems to be, where the intermediate school or junior high school is organized, to include this work, or at least the major part of it, in the program of these intermediate grades. This seems to offer the most satisfactory solution of the whole matter. It is the more recent method of seeking to accomplish what the advocates of nature-study work in the elementary schools have so long sought to accomplish. With the rapidly increasing number of schools of the intermediate type there will naturally be a response in the preparation of teachers which will make readily practicable the offering of one or two years of such work in the intermediate schools. Thus a great gain would undoubtedly be made for science teaching in the common schools.

With some such disposition of the introductory science course provided for, there remains the consideration of such special or applied courses as may be offered in the high school. The order of arrangement of these courses seems suggested by their very nature, as indicated in Chapter XV. The observational work with classification logically comes first, as in botany and zoölogy. The chemistry and physics follow later, usually in the eleventh and twelfth grades. The physiography, which is a composite science, and such applications as domestic science and agriculture, will also come in the later grades if any attempt is to be made to use the pupils' knowledge of special sciences as a basis for this work. But if they are to be given in the more elementary form, with no science training as a basis, they may readily be placed earlier in the program.

The chief point of the discussion here relates to the method of presentation. This usually divides into the laboratory

phase, the discussion of descriptive work, and the lecture or quiz. The laboratory work may take the form of observation and experimentation in the laboratory, or of field work, as the nature of the problems under consideration may require. In the case of geography, and also of biology, the field work may very properly predominate in the earlier stages of these courses. The basis for interpretation in geography will be successfully provided only through a careful study of the fundamental elements of the subject as they appear in the region about the school. Incidentally this local work should involve careful training in making maps, plotting curves, and keeping accurate records of such phenomena as are to be observed in succession as a basis for generalizing. Care should be taken to see that pupils become familiar with the results as presented in actual practice by government departments or through private initiative.

In the field of botany the natural history aspect should come first. Pupils should learn to observe the plant life with which they are familiar; to note the time of appearance or of growth and fructification; the climatic conditions and the habitat of the plants; and, as far as possible, their economic or social value. The stages of plant development, from germination to the completion of the plant's work, should be observed. Later in the course should come the study of types illustrative of evolution and the study of plant structure. The aim of this work should be (1) to organize the pupil's everyday knowledge of plants; (2) to extend this knowledge as a basis for understanding the life processes presented in plants and the relation of this life to the life of man; (3) to show the evolution of plant life and the basis for classification into the more significant groups.

A fundamental achievement of such a course should be that pupils learn to recognize plants and plant relations by their characteristic features. They should know the trees about them; the shrubs, both native and ornamental, which

they find in garden, field, forest, or lane; the flowers of the locality in which they live. They should know the grains and grasses, the fruits and vegetables of economic value, and be able to recognize them as they grow. And incidentally they may very properly acquire some knowledge of how these are cultivated and harvested.

The zoölogy should have a similar approach, with the additional feature that the relation existing between plant and animal life in general, as well as in more specific ways, should early be established in the minds of the pupils. In both botany and zoölogy the laboratory should provide means for preserving specimens and for the observation of growth with the various transformations that come in the life history of at least a few of the more common plant or animal types. It is only through some such familiar daily contact in laboratory, or garden, or both, that pupils will be able to enter fully into the significance of these things. The tendency of the schools is to neglect these more general and commonplace aspects of the teaching of biology. Too much is usually taken for granted as to the common fund of knowledge which pupils may have acquired through their ordinary daily experiences.

In conducting laboratory work the economic use of the time allotted to the work is an important consideration. On this account it is desirable that the work be carefully planned and also that all materials and apparatus be in readiness for use. This is no place for the teacher who leaves the matter of arranging the laboratory facilities until the hour for class work has come. There should also be at hand and ready for the pupils careful directions as to the particular things to be accomplished. These may be in the form of a direction sheet or written on the blackboard. Ordinarily it should not be necessary to take the time of the class to dictate such instructions unless they are exceedingly brief. The lantern is a very useful auxiliary in laboratory work, and a good time saver. With a carefully selected assortment of slides and with a

projection microscopic attachment for showing more minute forms of life it becomes possible to get before an entire class materials which it would require much more time to observe from individual specimens with ordinary compound microscopes.

The matter of records and drawings is also an important detail. It should not be forgotten that the immediate purpose is to cultivate habits of accuracy in observing and recording details. This requires that the pupil see for himself and represent in his notes and drawings his own and not another's observations. It is not a time to cultivate artistic ability except as the repeated application of such ability may tend to cultivate it. The essential thing to get down in the notebook is a record in notes and drawings that shall be as nearly as possible scientifically accurate from the point of view of the pupil's own observations. If this habit and attitude is to be cultivated there should be little if any copying in of others' notes or of drawings from other sources.

Field work calls for even greater care in preparation if results are to be satisfactory. It is not always necessary that an entire class should be taken at once for such exercises. Much very valuable experience may be had for individual pupils by giving them special problems for investigation in the field. To prepare for this, however, it is best that the teacher go with the class, or with sections of the class, a few times in order to indicate to them how best to proceed in their field investigations. A careful record and report of these excursions afield should always be required.

In the physical science work a different situation is presented. Here the problems to be solved in the laboratory involve chiefly the manipulation of apparatus by the pupils. Evidently, then, it is desirable that there be apparatus enough so that each pupil may be given opportunity to conduct his own experiments. Frequently this will necessitate such division of the work as to permit of a number of different experiments during

the same period, thus making possible a wider distribution of apparatus. Here again accuracy should be the ideal. To this end pupils should be required to repeat the tests and measurements, or the chemical reactions, until results are verified.

The same general principles as to economy of time and faithfulness in keeping records should be observed as in the case of biological science. Pupils should acquire dexterity in handling materials and apparatus and should be held responsible for breakage or damage as a result of carelessness. In all of this work it should be the aim to cultivate initiative and independence in carrying through experiments and accuracy in recording results.

The recitation period should furnish opportunity for reviewing the results of laboratory work and for pointing out the proper generalizations. But it should be more than this. It should be used for familiarizing the pupils with what has been accomplished in each of these fields of science and especially the applications that are being made of the principles and laws that have been established through experimentation. To this end pupils in physics and chemistry should have opportunity to visit all industrial plants in the neighborhood where these principles and laws are being practically applied. Incidentally also, attention should be called to the various vocations largely dependent on such knowledge for their successful pursuit.

A very important part of all this work of science teaching is the training to think clearly and accurately, and to think problems through to definite conclusions upon which individuals may safely act. This involves both inductive and deductive processes; but it is probably true that no better field for training to inductive reasoning can be found. Here the personal element is eliminated, and one may determine the data through his own observations or experiments. To have made these without carrying the process through to the

logical inference or deduction is to have lost a most valuable part of the exercise. And yet one may often see in the high school just such a falling short of the real purpose and aim of much of the science work undertaken.

It is interesting to note the tendencies in regard to the teaching of agriculture and domestic science in the high schools. In agriculture the work first began with a general course which dealt only lightly with such matters as soil fertility, stock breeding, field crops, and horticulture. Now the preference seems to be decidedly in favor of specific courses, giving at least a half-year each to such topics as those named above. Thus with from two to four years of work in the curriculum it becomes possible for the boys taking agriculture to get a pretty good insight into the main principles involved in at least four of the topics named, or in similar divisions of the general field of agriculture. This seems to be quite the opposite of the tendency with regard to the special sciences taught, which, according to the advocacy of some, should be made more general.

In the teaching of domestic science also there are some notable tendencies. Chiefly we may mention the tendency to offer special courses in physics and chemistry suitable to the needs of girls who undertake the study of household economy. It is also true of this subject that it has passed the stage of general treatment and become, instead, a series of courses more or less clearly defined as related to high school needs and possibilities.

Such tendencies plainly indicate a demand for the thoroughly trained teacher in these special departments of applied science. The man with only a summer quarter's training to his credit will find it difficult to qualify for the teaching of high school agriculture. The same limitation will apply, and with even greater force, to the teaching of domestic science.

In all of this content work, both scientific and historical,

will be found opportunity for making use of various forms of expression. In fact, the chief functioning of expressional skill should be as the natural result of the individual's reaction to such stimuli as these content materials alone are able to supply. It becomes, therefore, a very important part of the work of science teaching, as also of history teaching, to see to it that the pupils find opportunity for the exercise of their abilities, both natural and acquired, in some one or more fields of expresssion. That is what that teacher meant who said in a public assembly not long ago, that he "encouraged a boy who was a natural cartoonist to study history on the ground that he might express his conceptions of the great truths of history by means of his favorite form of expression."

A little careful thought will show us that the vocations of life are characterized chiefly by one or more forms of expression. For a man's vocation or avocation is simply that range of activities by which he directs his thought and feeling to the accomplishment of certain results — the expression of himself. Our schools have too long lost sight of this fact. We have permitted expression in the schools to confine itself too exclusively to language, whereas we should encourage all those forms and modes of expression which must be used in life in order to continue to reproduce that type of civilization of which the social group, the nation, is an exponent. True it is that we need more and better expression in language, but this is not all. We need expression in the making of things, useful and beautiful; in the application of color to expression in art and design; in the cooking of meals and their serving; in the building and decoration of homes; in the planting of gardens, lawns, and parks; in the designing and making of garments; in the printing of books; in the building of roads and of bridges; in the building and equipping of ships; in the organized direction of sympathy; in the formulation of laws and the perfection of government; and in all social ordering and organized effort for human welfare.

The pabulum, the principles, the clear working of the constructive powers of the mind must come, if at all, either by direct contact with man and nature, by a study of man's reactions to such contacts as we find them in history and science, or by both direct and indirect modes of contact and stimulation. This is why we teach science and history. Our schools exist chiefly (1) to train the young to skill in the use of the arts of expression, and (2) to give opportunity, by an abbreviated process, for those contacts and reactions of the past which account for our present social conditions and our understanding of natural laws and forces. In all our efforts at educational reconstruction, therefore, the great end and aim should be to secure a more perfect instrumentality in the schools for the accomplishment of these results. Better teaching of history and of science should bring a fuller and more effective expression of these in the ideals, the conduct, and the service of those whom we seek to teach.

CRITERIA FOR THE SELECTION OF HIGH SCHOOL TEXTBOOKS

1. When should textbooks be changed?
   (*a*) From the standpoint of the teacher they might better be changed every year or two, for this would help to keep the teacher from becoming too narrow in her treatment of a subject.
   (*b*) From the standpoint of good economy, however, if books have been well chosen to begin with, a change every four or five years should answer the needs. To keep them in use much longer would, in many cases, materially handicap the teacher's work.
2. Why should they be changed?
   (*a*) When the material is old and out of date, as in many science texts, the interests of the school demand it.
   (*b*) To make necessary adjustments where changes are made in the program (course) of studies. To illustrate, if a half-year course in English history is to be changed to a full-year course, and the text in use is a very brief treatment.
   (*c*) They should certainly not be changed merely to accommodate a teacher on the sole plea that she has used other books and therefore prefers them to those now on the list.
3. How should new texts be selected?
   (*a*) The department teachers should be consulted first as to preferences and reasons for the same.
   (*b*) In case there are no department recommendations it would be well for the principal to select and then, if practicable, advise with department heads.

(*c*) The principal should then make his recommendation to the superintendent, with reasons, or directly to the board in case of independent high schools.

(*d*) The action of the board on the final recommendation is necessary in order to complete the adoption.

4. Points to be considered in selecting texts.

(*a*) The book as a mechanical product — is it well bound? is it well printed? is it well indexed? if illustrated, are the illustrations well printed, and do they really add to the usefulness of the book?

(*b*) Is the authorship such as to vouch for the reliableness of the content?

(*c*) Is the book adapted to high school work, and if so, is it adapted to the course for which it is intended? No book should be selected that is not readily adapted to facilitate the work in hand. Other things equal, a full text, comparatively, is preferable to one that is too meagre.

CRITERIA FOR THE SELECTION OF HIGH SCHOOL LIBRARY BOOKS

1. In centers where there are good public libraries the selection should be altogether for working materials for the school. In case there is no public library, the selection may well be devoted in part to the general reading interests of the pupils.
2. The selection of a working library for a high school should include (*a*) general reference works, such as dictionaries, handbooks, and encyclopedias; (*b*) special texts, treatises, literary selections, reports, etc., for the different departments of high school work.
3. In the selection of departmental material all departments should be considered. However, the laboratory work of a historical character, such as history, civics and economics, and literature, should have the larger representation.
4. All books selected for a department should be of a character calculated to contribute directly to the work of the school. To be usable they should not be too technical; and at the same time, except in the case of fiction, they should be thoroughly reliable as sources of information.
5. A fund should be available annually for the addition of such new books of value as may appear from year to year.
6. There should be books for the use of teachers as well as pupils; especially the indispensable ready helps to sources of material, suggestions on the teaching of various high school subjects, and other more general professional books.

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